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THE CLYDE
TO
CALIFORNIA.

[James Allen]

To
Miss Githen
with the Author's Compliments.

6th May
1852

FROM CLYDE TO CALIFORNIA.

GREENOCK :

BLAIR, PRINTER, HERALD OFFICE,

CATNCART STREET



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EAST TEMPLE STREET, SALT LAKE CITY

FROM THE CLYDE

TO

CALIFORNIA

WITH JOTTINGS BY THE WAY.

REPRINTED FROM THE GREENOCK HERALD.

ILLUSTRATED.

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WILLIAM JOHNSTON, HAMILTON STREET.
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INTRODUCTORY.

A REASON is generally given for the publication of a book. The reason for the appearance of the present volume cannot be better expressed than in the following extract from one among the many communications received :—

“I cannot refrain from telling you how very greatly I am enjoying the account of, I am told, your tour in America that is appearing in the ‘Greenock Herald,’ and I write to express not only thanks but a strong hope that you will publish your letters in a collected form by and by. I have been under the impression that I read more of American travels, newspapers, etc., than most folks, and was conceited enough to think myself well posted up about a country which

in some respects is more worthy of imitation than we are disposed generally to admit; but before your letters are done, I will have added to my knowledge a great many side lights of a very interesting kind."

In compliance with many requests of a like nature, the papers have been handed over to the publishers, who have kindly undertaken their issue in the present form; and if they add some information, however little, of a great country and a great people so closely allied to us in bonds of friendship and race, it will be a source of pleasure and gratification to the writer.

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FROM CLYDE TO CALIFORNIA.

CHAPTER I.

QUEENSTOWN—IRREPRESSIBLE BEGGARS AND THEIR WITTY OBSERVATIONS—THE “BANKS”—SUNDAY WORSHIP ON BOARD—SANDY HOOK—DECORATION DAY—MY FIRST “COCKTAIL”—THE BAY, A FAIRY-LIKE PICTURE—SOMETHING LIKE A STEAMER—MONTREAL—RUN THROUGH THE RAPIDS—THE WHARVES AND ELECTRIC LIGHT—
—QUEBEC—NOVEL HAY PRESS.

HAVING a strong desire to see the New World and its many wonders, its people, and how they manage matters in the States and in the Dominion of Canada, I, along with a friend, took passage for New York in the latter part of May, 1881, in the good ship “Gallia,” one of the Cunard Line of steamers, and became members of its floating population for the time being. In giving a description of our rambles (which were pretty extensive, stretching away to Salt Lake City and San Francisco) over the American Continent, I do not intend to give a dull diary of our proceedings—the miles we travelled, all the places we visited, and so on ; but merely to note those occurrences that took place and the things I saw which were of most interest to me, and different from what I may have observed at home.

After leaving Liverpool, Queenstown was soon reached, where two hundred and eleven mail bags were tumbled on board. The mail service between Britain and America must be something enormous, and shows the intimate relationship that exists between the two countries. Having a few hours at disposal, a number of the passengers went ashore, and on landing were immediately surrounded by a multitude of female lace merchants selling handkerchiefs, sprigs of shamrock, broom, &c., the articles of merchandise being a mere pretence for begging. These irrepressible beggars were very jocular in their way, and one of our party being annoyed at the importuning of one old wizened-looking dame, sent her to "Old Nick," which was a mistake on his part; for she gave him her blessing in most choice Irish language, ending her flowery oration by seriously cautioning us all to avoid him for the future, for there was not the least doubt that he had a close and intimate relationship with his satanic majesty himself.

Another old dame among the plentiful crop, a professor in the art of begging, was told by one of our party that he had no small money. "Och," says she, "don't be after minding though it is not small, for sure I'll take any money but matrimony!"—and on his giving her a small donation, she deluged him with such a shower of blessings on his saintly head, that it induced an elderly-looking passenger to look into his purse for a small coin too, since blessings were going so cheap. He hooked out a

penny, and was searching for another, when the blessing-vendor exclaimed with a wicked, fun-loving leer in her eyes, "Och, my dear Mr Smith, I was sartin I had met yes before." "How is Mrs Smith and all the family?—sure my prayers for their happiness have never ceased ;" and having got all she could get from our party, she went off skipping for joy like an ancient "Cutty Sark," to make an attack on another party of passengers. The general appearance of Queenstown reminded me of Millport on a gigantic scale, with forts on each side of the channel, and another fort right ahead, while the convict island is situated behind.

We leave this city of forts, and steam on, and are soon passing Cape Clear, the most seaward point of old Ireland, and enjoy our voyage and the company till we reach the "Banks,"

"Where sailors gang tae fish for cod."

We saw these hardy toilers of the deep hard at work, for we passed through a large fleet of two-masted fishing boats, each boat having a number of skiffs with a man on board busy fishing for cod. Some of these frail-looking skiffs were several miles distant from their ships, and one of them came quite close to our steamer, and its occupant holding up a huge cod, newly caught, made a bold effort to wave it round his head. More than sailors fish for cod, for several whales were seen in the distance coming to the surface to blow and spout, and then diving down out of sight. This part of the ocean seemed

pretty much thronged with living things—whales, pellocks, dookers, and Mother Carey's chickens, flocks of which would rise in front of the vessel, and perform strange evolutions on the surface of the sea. We had also an occasional glimpse of passing vessels in the distance, which set us wondering what they were, and where they were going. The Queen's birth-day was loyally held on board. A concert was got up in the evening, the singers being supplied from volunteers amongst the passengers. Nor was our piety left at home, for we had divine service conducted in the saloon, in the Church of England form, by the doctor of the ship. The service consisted of a morning hymn, reading of prayers, and a chapter from the New Testament, winding-up with the hundredth Psalm, to the tune of "Old Hundred." We had no sermon. If a minister had been aboard, it is likely he would have been put to use. As it was, the service was conducted with simplicity and decorum.

The number of vessels about us increased. It was evident we were nearing our destination, and, at ten o'clock on Monday morning, land became visible. We passed Sandy Hook, and, as we sailed up the bay to the pier, the view around us was like some exquisite picture, or a scene from fairyland. It was "Decoration Day," the day on which the graves of the soldiers who perished in the late civil war are decorated with a profusion of flowers and flags, and it is held as a national holiday. There was a regatta in full swing, and the water was quite alive with

palace steamers, with their many tiers of decks towering aloft. Pleasure excursions by the dozen—crowds of beautiful, swift-gliding yachts—made up a panorama, for the splendour and ever-changing beauty of which I never saw anything before like it. On we sail through this crowd of holiday pleasure-seekers, and reach the pier. There was a multitude of on-lookers, amongst whom we did not expect to see a known face; but great was my surprise and pleasure on observing my brother-in-law and his son, who had that morning arrived from Boston (230 miles), having learned that I was coming by the “Gallia,” and so confident were they that she would be up to time, they had engaged our state-room to proceed with them that night to Boston. The health doctor passes us, and the Customs officials check and pass our belongings, and we speedily get bundled on board the “Bristol,” a floating palace steamer bound for Boston. She would not sail for a couple of hours, so we step on shore, and a sign over a cafe attracts our attention. It is the tail, legs and heels of a retreating “rooster.” On the right there is in full pursuit the head and neck of another very infuriated-looking bird, with its feathers bristling on end. This we presumed to be a Yankee cafe-keeper’s mode of advertising the invigorating qualities of his blend, so we enter and experience our first New World sensation, in the shape of a cooling drink—in Yankee phrase, “a cocktail”—sucked through straws from a tumbler. I said it was good, and so did

my neighbour, having in our school days had many a suck at milk barrels through straws.

We get on board of our floating palace, a vessel very much larger than our famed "Columba," broader and higher also, and though looking grand and stately, yet lacking the firm, substantial appearance of our own favourite river boat. Still this wonderful production, sailing between New York and Fall River, is a complete scene in itself, a veritable four-storey floating palace, with dining saloons sumptuously and luxuriously furnished, one of which accommodates one hundred and thirty to dinner at one time, with thirty black waiters in attendance. Those who wish to dine enter by one stair and retire by another, while no one is allowed to enter the saloon until room is provided for him at the table, intimation of that being passed from a waiter in the saloon to another in the stair-case, who passes him on to another who conducts him to his seat.

You go on board the steamer on the second deck, which is nearly on a level with the wharf, and is used exclusively for cargo, with the exception of a portion set apart for embarking and landing of passengers, and where all the officials have their offices. From here a stair descends to the dining saloons under, and another ascends to the upper deck and saloon. Going up these stairs one is impressed with the idea that he is entering a grand stately church. Just fancy the proportions of the saloon. It is 140 feet in length, about 30 feet in

width, and 30 feet in height, with an opening or gallery 80 feet long by 20 feet wide, circular at the one end, and a stair-case at the other, by which ascent is had to a passage about $4\frac{1}{2}$ feet broad, running all round above the saloon, and opening into a range of state-rooms on each side, each room being seven feet square, and accommodating two sleepers. These sleeping rooms are draped with fine lace curtains, and have all the requisite toilet conveniences. This boat can accommodate in the state-room 800 sleepers at one time, and when the extra beds are all laid out in the saloons and passages, there is sufficient accommodation for 1,500 sleepers. In fact, there is scarcely a limit to this boat's carrying capacity, as on one of her excursion trips there were 3,500 people on board! Saloons, state-rooms, everywhere that passengers congregate, are finished in gold, and tastefully painted in rich colours, and beautiful gasaliers are fitted-up where needed—as they make their own gas on board. But, if by accident fire gets hold of such boats, there is no hope; up she flares, like a box of matches, and Heaven help the passengers, for help or escape there is none, except from the life-buoys, two of which are in each state-room, and printed instruction how to use them. The upper deck or roof is very high, and no passengers are allowed on it. There are spaces on each deck at the bow and stern, beyond the extremities of the saloons and state-rooms, which are set apart for the musicians, and for the passengers to enjoy the view; but these spaces are far too limited

for the number of passengers. The saloons are wholly surrounded by state-rooms, which deprive one of the pleasant look-out that one has on board the "Columba," and that class of steamers so famed on the Clyde, which, though not so large as the American floating palaces, are yet more comfortable and secure looking, more fitted to stand a little rough usage from the elements as experienced in Scotland. These floating castles would not do for Clyde river traffic, being too unwieldy, but they are admirably suited for American habits and American waters in the summer time, when Jonathan and family are in perpetual motion.

Landing at Fall River, we take the train to Boston—the "hub" of the universe around which all nature revolves, as the Yankees describe it. At this city we make our stay short, as we intend, on our return, to spend a few days in it, so we proceed to Wells River, a thriving little village in the State of Vermont (Green Mountain), situated about one hundred and sixty miles north of Boston. Here we were very hospitably received by Scotch relatives, three generations of whom had been born on American soil; and it added much to our pleasure to meet such a long line of descendants, all hale and healthy—only sorry that we never had the pleasure of meeting with the original settlers, who, a few years since, had gone the way of all living, after having spent over half a century in their adopted country, in the midst of their family and descendants, some of whom now hold

honourable and responsible positions in various American cities.

Some of our friends drove with us into the country, to introduce us to others of our relatives, who are farmers, and from whom we got some hints on American farming. However, we were not very favourably impressed with what we saw in that line. The district was so hilly, and the roads steep, so that we had almost concluded that there was not much in American farming after all. On stating my opinion to one of the farmers, and saying that I would prefer a farm in the Highlands of Scotland to one in the Green Mountains of America, he replied—"Well, that may be so, but if I hae read Burns' 'Twa Dugs' richt, I think we hae the best o't. The farms you see here belong to ourselves, and we dinna need to fear a factor's snash ; and, although we hae gae severe, lang winters, we get aye guid weather for our harvest. But, since you're going further west, don't form your opinion about American farming frae what you see here, as you will see things very different as you go west." We took his advice, and found he was pretty correct.

This district could not be called mountainous, although the hills are very bold, and the summits are covered with either growing timber or green pasture, forming a great contrast to our heath-covered hills at home. Heather will not grow there, and a sprig of it is very much prized. It was the request of a friend on parting that when writing I should enclose a sprig of the

heather in full bloom. Owing to the steepness, the ground is in general much better adapted for grazing than for raising crops.

The village, though small, is central, and well suited for the farmers in the surrounding district, who meet there to do their banking and general business. There is a considerable trade done in farm implements, and in the manufacture of furniture, and also in lumber; the trees being cut in the uplands are tumbled into the river, and floated down to the mills.

Here we observed what was new to us, a wood shed erected over the bridge crossing the river. This is done to the greater number of American bridges, the object being to protect them from exposure to the climate, it being more economical to renew the shed occasionally than to reconstruct the bridge.

We now part from our friends, and proceed to Montreal, and when about thirty miles distant from it, a Custom-house officer joined the train, and accompanied it during the remainder of the journey, employing his time in examining and passing the baggage of passengers for the Canadian side, so as to save their time on arrival.

The Victoria Bridge being reached, forms a connecting link between Montreal and the States. Here the engine that brought us to this point has to give place to another engine, kept exclusively for crossing the bridge—its qualification being that it emits no smoke, which would be injurious to the bridge, which is a large iron tube over

one and three-fourths miles long, supported on twenty-three stone piers about twenty-five feet above the surface of the river, this being sufficiently high to allow steamers descending the rapids to pass under. A strong current in the river is quite apparent for a short distance below the bridge. The river is not affected by the tide for many miles further down. Any vessel going further up the river than the bridge must pass through the canal, the locks of which are two hundred feet long by forty-five feet wide, admitting vessels of pretty heavy tonnage.

We put up at the Ottawa Hotel, a gigantic establishment for the lodging and entertainment of travellers. In taking an early morning stroll, I was struck with the novelty of observing on the pavement opposite every door blocks of ice of about ten or twelve inches square, and opposite the various hotels whole cart-loads of it shot down on the pavement, like cart-loads of coal at home. Went to Lachine, a distance of about nine miles from the city, and came back to Montreal by way of the rapids. Opposite Lachine there is an Indian settlement, and the Indians seem to be in a well-to-do, contented condition. The river St Lawrence at this point is narrow, being one and a half miles broad, and in going out into the rapids the water has the appearance of a huge boiling pot for a few miles of the journey, and when we get into the swift part the river is divided into three channels by two islands that block the combined flow of the waters. At this critical part of our water journey the steamer is

piloted by an Indian through the central channel, where the commotion is somewhat startling, and on one side of the channel the river appears to be falling over a ledge of rock about eighteen inches or two feet above the water in the channel. The most rapid part of this river race is about two miles long, and it is said there is a fall or incline in that distance of forty feet. It does not appear so much when coming racing down, but on looking back the incline is more visible, and rather dangerous looking, though we got down safely. We would not be surprised to learn of a grand smash there some day.

At Montreal, between the buildings and the river there is a broad esplanade along the front line, on which there is a stone parapet wall, surmounted by an iron railing on top. The wharfs, which are on a much lower level, are of great breadth, extending from the esplanade into the river. They are constructed of wood, and are approached from the esplanade by stairs for passengers, and by inclines for the goods traffic. The sheds on the wharfs are of wood and iron, and are removed during winter and re-erected in summer. Some of the wharfs have the electric light fitted up to illuminate the sheds and river frontage, and it is said that the lamps are removed in winter, and fitted up anew when the ice disappears. The grain elevators are objects of interest to the uninitiated, and the speed with which a ship is loaded with grain is extraordinary. Barges with these elevators take their stations alongside of ships to be loaded, and

the boat loaded with grain, which has come down through the canal, takes its place on the other side of the elevator barge. The elevator, by means of a jib, is dropped into the grain boat, and men keep shovelling the grain into the elevator, which runs the grain to the barge, where it is dropped into a hopper and weighed. It is then dropped into another hopper, and is again raised so high as to discharge into the ship. Before the grain is weighed a fanner is so arranged as to clear it of all dust. The grain boats are both wide and deep, carrying from five hundred to seven hundred tons, and each elevator discharges, dusted and weighed, four thousand bushels of grain per hour, thus rendering the loading of a ship comparatively quickly and easily done.

We took a run down to Quebec, which is built at the junction of the St Lawrence and the St Charles Rivers; built, too, in a very irregular manner, badly constructed wharfs and streets, some of the footpaths being from one to two feet above the level of the roadway, and the only stone wharfs they can boast of being along the St Charles River. Those on the St Lawrence are all constructed of timber. The town is divided into what is known as the upper and lower towns. The upper town has a very imposing appearance, as seen from the river, though there is but a comparatively small portion of it in view, the greater part of it being concealed by a very prominent elevation, extending several miles along the river, and surmounted by an impregnable-looking fortress, so

situated as to be a safe protection to the town, the surrounding district, and the entrance to both rivers.

We took a run over the scene of the great fire which, on the morning of our visit, had destroyed upwards of eight hundred buildings, a fine Cathedral, and an Orphanage which had accommodated eight hundred children. It was a pitiable sight. Thousands of unfortunate people were encamped on the Commons, in the midst of what little property they had saved from the devouring elements, amongst which we observed live stock, such as cows, pigs, and poultry. Anxious mothers were tending their poor children, who in their turn were taking special care of their little trinkets, pet-birds, rabbits, &c., and waiting till the return of some member of the family with the glad tidings of having secured some place to shelter them. This calamitous scene, apart from its extent, was very different from what in this country we are accustomed to see after a conflagration. The houses being wholly constructed of wood, there was little or no *debris* to be seen, except smouldering embers, American stoves, and isolated brick chimneys, which, when seen from the Plains of Abraham behind, resembled very much a distant view of a cemetery, with its tall monuments and snapped columns. Where the buildings are all or nearly all of wood, when fire catches them they soon blaze up with fierce intensity, as in this fire whose work we were looking at, for even the rails that were laid along the streets were turned and twisted by the intense heat, some

of them bent up in the form of an arch three feet above the sleepers. With our stone buildings at home, we have but a faint idea of the devastating power of a fire in an American city. This explains the extreme anxiety of the citizens to meet promptly, with their splendid fire brigades, any outbreak of fire.

We returned to Montreal, and took passage for Toronto on board the s.s. "Algeron." There were only twenty saloon passengers, but further on in the season it is said the numbers will increase from six hundred to seven hundred. Passed through the canal to Lachine, a distance of nine miles, with five locks, and a rise of forty-five feet. Then through the Cornwall Canal, eleven and a half miles, with seven locks, rising an additional forty-eight feet, and then through another canal with nine locks, with another rise of eighty-two feet, so that we found ourselves rising in the world—rising towards the level of the immense lake region of North America.

We stopped at Prescott to receive passengers from Ottawa, and while there we saw at work an American portable hay press, which was placed on four wheels. When it is being removed from one place to another, it is drawn behind a four-wheeled lorry and two horses—the lorry and horses being an indispensable part of the press, not only for removing it, but for giving it motion when at work. They are, in fact, the engine that works the press. The lorry is constructed with a roller at each end the full width of its bottom; round these rollers are flexible bands,

across which are fixed strong, narrow pieces of wood which form the bottom of the lorry. When work is to be commenced, the hind wheels are taken off the lorry and the back-end let down to rest on the ground, thus giving a great incline to the bottom, on to which the horses are put, their weight on the incline causing the bottom to revolve, and setting in motion a large pulley on the side of the lorry. A belt passes round the pulley, and also round a small pulley on the side of the press, which stands a little a-head. The whole now works easily. A rail, about three feet high, is supported round the lorry to enclose the horses. The bottom revolves, the horses, as if ascending a steep hill, keep moving, but never get out of the spot. In the course of our travels we observed this horse tread power applied to various other purposes, such as mixing lime and cutting timber into lengths for stove use. It is a very novel labour-saving arrangement. Indeed, the more that I saw of America, the more numerous did I find adaptations of all kinds to save manual labour.

We continue our pleasant voyage up the St Lawrence, with the Dominion on our right and the United States on our left, a splendid waterway for the two great countries, and also a clearly defined boundary between them.

We arrive at Brockville, which is a thriving village. Just now it boasts of five churches, each having a beautiful spire and minarettes; also, some public works, where a considerable trade is done in tanning, lumber, grindstones, &c.

One of Sir Hugh Allan's sons has a fine residence here ; there are also many nice private buildings ; and here Nature is again laid under contribution to do manual work, for nearly every private building has attached to it a wind-mill (resembling a gigantic Chinese umbrella), set on a high frame, which is used for pumping water to the cistern on the house top.

CHAPTER II.

THOUSAND ISLANDS—A FAIRY SCENE—THE LIMESTONE CITY—PROFITABLE PRISON LABOUR—MINERALS—DEAD FISH—TORONTO, THE QUEEN CITY—WOOD-WORKING MACHINERY—MAMMOTH STABLES—TWELVE THOUSAND GALLONS OF WHISKY—THE CATTLE TRADE ON A BIG SCALE—AMERICAN FARMING—A “BELL COW”—RIVER PILING AND ICE PLATFORMS—SUGAR-MAKING—DIAMOND WEDDING—NIAGARA FALLS AND ELECTRIC LIGHTING—UTILISATION OF THE FALLS—BUFFALO—SOBRIETY AND SAVINGS BANKS.

LEAVING Brockville, we enter on a fairy scene—the Thousand Islands—and are at length in their midst. On right and left, before and behind, they lie about us, from the size of a parlour table to several miles in extent, all clothed in rich verdure, the trees drooping with heavy foliage. One small island had two slender trees upon it, about twelve feet in height, with a quantity of ferns about their roots—a little gem of beauty. Some had farm stock and comfortable-looking farm-houses upon them. On others were to be seen gorgeous mansions of the American gentry.

The Thousand Islands seemed to have been so named before they were counted; for the precise number, according to official returns, is 1692. They are famed residences during the summer months for citizens of New York and other large cities, and it is a favourite boast

among the many boatmen that, in their light and graceful craft, the same guest may be taken through different scenes every day during the season. The beautiful and romantic scenery is simply that of our own Loch Lomond repeated on a grand scale.

After passing through this fairy archipelago we reach Kingston, or the "Limestone City," as it is called, and a very clean, thriving, healthy place it seems. Some of the houses are built of brick, but the largest number are built of limestone—hence its name. Having two hours to spend here, we visited the Court-house, the Cathedral, and the New College. About two miles distant from the city is the prison, to which are attached two hundred acres of land in which are stone quarries. The working of these quarries and the cultivation of the ground keep the prisoners fully employed at profitable work, and near the prison is a very large asylum. Both prison and asylum are said to have been built by prison labour. This is putting criminals to profitable use, and is a great improvement on "crank-turning," such as we have in some prisons at home.

The agent of the Steamboat Company was very communicative, and gave us a sight of all the specimens of minerals the district produced, among which were silver, lead and iron ores. The iron ore contained twenty per cent., and some as high as sixty per cent. of pure iron. We inquired if they had coal in the neighbourhood of the iron? "That," said he, "is the only

thing we want, to give full development to the port ; so we have to export the ore to get the iron extracted."

He shewed to us a beautiful specimen of slate—the finest, indeed, that ever came under our notice, but the slates cannot be used, as slates are imported from England and sold at less cost than these fine ones can be taken out of their own quarries—there being no duty on this article. "Slates," our informant added, "are the only things imported on which no duty is levied ; but the representative of Kingston has had his attention drawn to the slates, and to the prospect of a large industry being developed, if an import duty were put on, even although there should be only one quarry in the State." Whether right or wrong, this is their method of developing the resources of the country.

When we were about thirty miles from Toronto, our attention was attracted to the immense number of dead fish floating on the surface of the water. There were thousands all round, and in appearance like good-sized herrings. We inquired at the captain the cause of such a strange sight. He informed us that it was nothing new. For several seasons past the shores, all along, were covered with smelling dead fish, and farmers in the neighbourhood were in the habit of carting them away to manure their lands. It is conjectured that at this season of the year an epidemic overtakes this kind of fish ; but the probability is that it results from the escape of

noxious vapours, caused by volcanic action at the bottom of the lake.

On our arrival at Toronto, we put up at the Walker House, a very comfortable and well-conducted hotel, and having breakfasted we sallied out to spy the "Queen City," as it is styled. We were favourably impressed with the number of stately churches and lofty spires, and more particularly with the sedate demeanour of the people, who were evidently wending their way to their respective places of worship on this pleasant Sunday morning. The appearance was that of a quiet Scottish Sabbath, and having joined the throng, we went into a modest-looking place of worship called the Catholic Apostolic Church. The service was new to us, being conducted by no less than eight officials dressed in various costumes or robes, each taking part in the ceremony. Except for the dresses, it was difficult to know who was the priest and who were the apostles. Though a little strange to us, the service was impressive. The Sacrament was dispensed at its close, and the whole was conducted in such a solemn manner as to leave no doubt on our minds that we were amongst a religious and God-fearing people.

After dinner, we took a stroll through the city, and inquired for Jervis Street, where we had learned that an old Greenockian had his place of business; having discovered his sign, we did not feel disposed to disturb him on Sunday, but went about two miles along the street taking

observations. The street was very wide, and well shaded on both sides with maple, chesnut, and poplar trees. The sideways were all formed of wood, and between them and the carriage-way on both sides along the whole length of the street extended a broad green plot. Neat, substantial, self-contained villas were on each side of the street, ornamented with nice patches of green lawn and flower-plots in front, rendering this part of the city clean and pleasant-looking.

After walking on for a considerable distance, we turned to the left, and entered the Queen's Park, a large and handsome pleasure ground, where we spent a pleasant hour. Numbers were strolling about, and stump orators were dotted over it, holding forth to knots of listeners their views on various topics.

We returned by a Grand Avenue leading from the Park to the city, concluding from what we had seen on our short stroll that Toronto had a fair claim to be called the "Queen City," and that it far surpassed anything we had in the old country, with one exception; there were very few drinking fountains and seats in the Park and avenues, however, and, on account of the extreme heat, they would have been very acceptable.

On Monday we called on Mr J. B. Smith, an old acquaintance, who had been twenty-five years resident here, and who was carrying on the lumber and joiner trade successfully. We were taken over his extensive premises, and saw wood-working machinery used for the prepara-

tion and construction of nearly every article of woodwork, which, to our view, seemed carried to the height of perfection. Our friend then asked us to ride with him to see a stable he was just finishing, and on arriving at it and looking at its grand appearance, we would not have been surprised if he had told us that we were visiting some public institution instead of a stable. But you may guess our surprise when, on ascending an easy incline, we saw before us a long, wide, and lofty hall, all formed of wood, and fitted up to accommodate six hundred and fifty horses. The ground-floor was adapted for carriages, &c., the second floor for horses, and the third floor for grain and provender. The general aspect of this immense horse lodging-house had more the appearance of a public building than a stable.

We had heard of the mammoth proportions of the American hotels—and had some pleasant experiences of them—but we certainly were not prepared to see the same system carried out on a scale so enormous for the lodgment of horses. Our friend, seeing that he had surprised us, resolved to surprise us still more, and conveyed us to the large distillery of the Messrs Gooderham & Worte, where 12,000 gallons of whisky are daily manufactured from grain. After having been taken over the vast premises, we were shown the conclusion of the process issuing from a pipe three inches in diameter, standing upright in the centre of a cistern through which the liquor welled up and overflowed into the

cistern. On the top of this pipe a gauge constantly floated, so that any variation in the strength of the liquor was at once detected by the attendant on duty.

Our attention was then drawn to the fact that after the grain was put into the vats, it was not taken out or again handled in any way at the distillery, but was run along with the potale or liquor from which the whisky had been extracted into a large vat that stood on a lower level, but still sufficiently high to allow the mass to run through a pipe and discharge into a series of vats at the extensive byres belonging to the same firm, fully three-fourths of a mile distant from the distillery. In these vats the potale and draff are stirred by machinery until they resemble gruel, which is distributed by a series of rhones into the troughs in the byres, which are seven in number and in the aggregate accommodate 4,500 head of cattle. At the time of our visit there were only 3,600 in the stalls, a number having a few days previous been sent by the Grand Trunk Railroad to Montreal, there to be shipped by the Allan Line to the Clyde. The cattle in another of the byres were sold for the Clyde, and some of them were to be despatched on the following day. They were sold at $5\frac{3}{4}$ cents per lb. live weight, the animals varying in weight from sixteen to nineteen cwts. each. The byres are square, two-storey buildings. The upper storey is used for holding provender. The cattle stand in the low flat in long rows, head to head, with a feeding-trough between, and a rail over the centre of it, on which a gang-

way is laid for the attendants to walk from the one end to the other. After the season's cattle have been disposed of, the byres are cleaned and disinfected, the old floors lifted, and the building exposed to the air for several months. About the end of August, the floors are re-laid with new wood, and all prepared to receive stock for the next season, competent parties being sent over the country to purchase lean cattle, which are taken to the byres and fed during the winter, so as to be in good condition by the month of June, when they are sold for export.

Amongst the cattle in the byres were some with nicely dressed horns, having polished brass knobs on the tips. These, we were informed, had been kept for ploughing or dragging timber, for which purposes they are much more used than horses.

It is the custom in our country to supply stall-fed cattle with a good bed of straw or sawdust. With the Canadians this comfort is altogether disregarded. They find by experience that cattle are more healthy and thrive much better on bare boards than on a bed of straw, which has a tendency to generate gas and produce disease. This treatment is certainly not very comfortable looking, though the result is said to be very satisfactory, the death-rate being not more than 1 per cent. during the season.

Another point is worthy of notice. With stall-fed cattle at home the manure is worth from £2 to £3 per

head per annum, whereas, with the Canadians, it is of no value. It is run out into the dungstead, which extends the whole length of one side of the byre, and is divided into sections; and any farmer or market gardener who will guarantee to keep a section clean for the season, will get the manure for the taking away.

Returning from our excursion, we drove up to the office, and, on stepping from the buggy, we observed a man sitting on a log, his back against the wall and his face exposed to the sun. Mr Smith remarked that there was something wrong with that man, and, stepping up to him, gave him a shake. He opened his eyes, and, with a debauched stare in his countenance, uttered some incoherent words. Mr Smith followed up with—"Where do you come from?" and, as if attempting to raise himself up and collect his thoughts, he muttered out "Greenock," and that he was wanting work. We felt somewhat chagrined at the idea that the first intoxicated man we had seen, hailed from our native place. This little incident led to a conversation about foreign workmen. On asking Mr Smith if he ever employed any of our home workmen, he said he had them frequently, but it was very difficult to get along with them at first. They were so prejudiced in their views, they insisted on their own way of doing everything, but a very few days took this conceit out, when they saw how the Yankees could go a-head of them. When they did adopt the Yankee methods of working they got on very well.

Leaving Toronto, we took train to Owen Sound, situated on the Georgian Bay, Lake Huron, 122 miles distant. The railroad follows very much the surface of the ground; the roads all cross the rails on the level. Large billboards are fixed up at these crossings, with the intimation in bold letters, "Look out for the train," and if any unfortunately come to grief through their own carelessness, the fault is their own and not the company's. This line of railroad is for the greater part of the way through a forest which in some parts is cleared only for the railway lines; other portions are cleared for nearly a mile on each side. Some of the fields are in a fair state of cultivation; others have stumps of trees sticking up from three to four feet above the surface, indicating the depth of snow on the ground at the time they were cut. Hardwood roots rot in from five to seven years, but pine roots take from twenty to twenty-five years.

Where the land is clear there are always a number of shanties erected. The farms here vary much in size, being from thirty to one hundred acres. When a farmer clears a bit of ground he erects a shanty to live in, then plants an orchard; every farmer has an orchard, varying in size from half-an-acre to three or four acres, and keeps a horse and buggy to convey his surplus produce to the nearest village or market town. When a sufficient quantity of ground is cleared, he plants corn, wheat, and potatoes, and also keeps a number of cows, one of which has a bell hung round its neck, which keeps

ringing with every motion of the cow. The other cows follow the "bell cow," and thus their whereabouts in the forest are readily got at.

A farmer told me of a curious instance of the force of habit in a "bell cow," which had worn the bell for a long time, but it was taken off, and she got so grieved, so out of sorts, and so low spirited, that the farmer began to treat it as unwell. But it showed no symptoms of recovery, till one day one of the children in his pranks decorated the cow with its bell, when it instantly recovered its usual sprightliness, and went at once to the grass, with all the other cows following.

There are quite a number of public works at Owen Sound, considering its size, and the Harbour Trustees are piling for a long distance down into the bay, on both sides of the Sydenham river; and in this operation our American friends again employ the agencies of Nature to assist them.

The piling is done in the winter season, when the bay is frozen over. The lines for the piles are drawn on the ice, and holes are cut just the size of the pile, which is then dropped through, and driven to the proper depth, the ice making a fine platform for carrying on the work. When the ice melts, then the piles will be floored over, and the wharves are complete, Nature kindly assisting in doing the scaffolding work, and charging nothing! Wood is abundant, and is the only fuel the farmers use. The ashes are preserved, and soap is made from them.

They make their own sugar from the juice of the maple, a tree similar in appearance to our plane tree. The maple is tapped in the spring, when the sap is ascending the trunk, and it runs best when there is a keen night's frost, followed by a warm, sunshiny day. The quantity of sap got from such trees gives about from three to five pounds of sugar each season. The sugar-making season is a busy time with the farmers ; it is done in the open air, and is generally a merry, social gathering of the young men and women all round.

We met an old man, aged ninety-six, and wife, aged eighty-four. They had celebrated their "Diamond Wedding" a few weeks ago—sixty years of wedded life in this land of many marriages and so many divorces ! On remarking to him that it was surely a healthy place, "O yes," he replied ; "if I had a little money and a pony to carry me about, and could get a bit of pork and a little whisky now and then, I think I could get along very well for twenty-five years yet."

On our arrival here we were very cordially received by a native of Renfrewshire, who, with his good lady and family, spared no trouble to make our visit very enjoyable. A few years ago he had purchased a farm about two miles distant from the village. On it he had erected a two-storey dwelling, a perfect model for comfort and convenience. Much hard labour must have been spent in bringing what of the land is cleared into its present state of cultivation ; judging from what we saw of it in its

natural state, it must have been very rough to begin with. All along the Bay for about one-fourth of a mile inland, was thickly dotted over with boulders, some of large size. Our friend informed us that it is supposed they have been deposited there by icebergs, and the distinctly marked line of elevation to which they extend along the shore bears out that idea. In this district were birds of beautiful plumage. The yellow canary and humming-bird were very plentiful. In the evening the whip-poor-will was heard, but could not be seen. As darkness increased the sparkle of the fire-fly became more visible, as it darted from place to place.

The water in the Bay was remarkable for its purity. At a depth of from twenty to thirty feet one could see the fish swimming, and could count the pebbles in the bottom, as if the depth were not more than from four to five feet, and we could not believe that it was more until we saw it tested. Our friend drove us to Leith, about twelve miles distant. This is but a poor representation of Leith as known to us in Scotland. There is little doubt that at the time it was named there were better prospects in view, as were indicated by a deserted hotel and stabling accommodation, and several uninhabited dwellings, also a pier constructed on the lake. The site is a good one, with a fine waterfall, but the only business carried on is in a flour mill, a smithy, and a wright's shop. In all our travels this was the only place we observed on the decline. A few years ago a branch

railway was promoted to a neighbouring village about eight miles distant, which had the effect of diverting trade from the place. Some of the people are still in hopes of a branch being promoted, and new life infused into the port. On the way we were informed that Miss Quarrier had been there a few days previously getting some of the Scotch orphan children settled with the farmers in the district.

In order to give us some idea of travelling in the bush, our friend, on our return, drove us about eight miles through a forest, a considerable part of which had been lately burned. Many of the tall, charred trunks of the trees were still standing, some of them burned half through. There was no road for a great part of the way, until we came to a shanty where about two acres had been cleared. From that there was a cart track for the remainder of the way, but the jolting was such that we could scarcely keep our seats in the buggy.

Next day we visited the village, and were introduced to a baker who was getting a patent oven fitted up, which was something new to us. It was just so far advanced that we could see the principle on which it worked. Looking into the oven was like looking into the paddle-box of a steamer. Passing horizontally through the centre was an axle, on which was fixed, at each side of the oven, a ring of large diameter. Between these rings a succession of shelves were hung on pivots (like paddle-floats), but in such a way that the shelves

always kept level as the axle revolved, motion being given to it by an engine, which is so regulated that, as each shelf comes opposite to the mouth of the oven, it stops a short time to allow the removing and replacing of trays with bread. If the bread be not properly fired, it is allowed another revolution in the oven. By this method the firing is very regularly done, and no peels being required for filling or drawing the oven, the bread is brought round to the workmen at its mouth.

After leaving the village, we drove several miles into the country. On the way we had a beautiful stream on the one hand and an extensive forest on the other, until we arrived at a nice cosy spot (Inglis's Falls), where there is a vast amount of water-power, not one-tenth of which has been utilised. There is at present a grain mill and a woollen manufactory, from which a great amount of woollen cloth is sent into the market. The inhabitants consist only of the families of those who are engaged in the works.

After seeing all the various processes of manufacture, we were introduced to Mr Inglis (the proprietor), with whom we were very soon on familiar terms, as it transpired in the course of conversation that, about thirty years before, we had been shopmates in Dunn's Machine Works in Glasgow. This discovery led to considerable inquiry regarding old shopmates. After recounting some of the incidents of former times, and getting a photo. of the falls, we said good-bye, and proceeded on our way.

Where the land has been brought into cultivation, it is divided into fields by what are known as snake fences, which are formed of pieces of timber all cut to one length, and laid zig-zag with the ends resting on each other, there being from seven to eight pieces in the height. Fences formed in this manner require no nailing or fixing into the ground, and are easily removed from one place to another, if necessary to a re-arrangement of the fields. Another kind of fence is common in some places where the stumps had been cleared out of the ground. These stumps were ranged in rows, with their roots all in one direction, forming a very secure-looking fence.

No use visiting America without seeing Niagara, so we made that our next point in our rambling journey. We got excellent accommodation in the Prospect House. The American Falls, which are the smaller of the two, are about a quarter of a mile in breadth, and were lighted up in the evening with seven electric lamps of various colours—brigh, tred, green, &c.—and an effort was made to show an artificial rainbow. Though a pretty sight, and very well done with the aid of the electric lights, it was a great way deficient in effect compared with the real rainbow that is seen there during the daytime. The spray that is sent up from the Falls by the air getting compressed and forcing itself through the mass of falling water, rises in an ever-varying column of vapour, which condenses and keeps the neighbourhood, for a consider-

able distance around, in a perpetual shower of rain—in fact, something like our Greenock weather! The American Falls, though only about half the size of those on the Canadian side of the river, seem, from a utilitarian point of view, to be the most valuable.

On the Canadian side, the ground rises very much, and the road running along the bank will render it more difficult and more expensive to take advantage of the immense motive power of the Falls. There is no question but they will be utilised, and that very speedily. On the American side the ground is more advantageous, being pretty level, and the water is to some extent already taken advantage of. A canal has been cut for nearly a mile down, and a large grist mill and a lumber mill are now getting power from the water of the Falls. The tail-race which discharges the water from these works is conveyed by a tunnel cut through the solid rock, to appearance some forty to fifty feet from the surface. There is also another large work being erected by a joint-stock company, said to be of Free Lovers, for electro-plating purposes. This curious social community who require to *electro-plate* their questionable morality, now turn their electro-plating propensities to things material. But the canal mentioned above has been undertaken by several companies, all of which were ruined save the present company, who seem determined to make it a success. This is but the beginning of the utilisation of this vast water-power, and

time and the restless ingenuity of the American mind will develop it to an extent yet undreamt of.

The burning spring in the vicinity of the Falls interested us greatly. This is a spring of water continually boiling up, and gives off a gas which, when a lighted match is applied, flames up and burns on the surface of the water, or if a tub is inverted having an inch tube through the centre of it, the gas burns like ordinary coal as ; but the peculiarity of it is that you may hold your hand in it or a handkerchief and it will not burn them. The water of this spring is used medicinally ; and I met an old farmer up in the high lands, who told me that he was half English and half Scotch, was seventy years of age, and that he made it a point to visit this spring and drink of the water three times in the year, and he never required a doctor!

On the American side of the river the people are very 'cute—everything is 25 cents. If you even look a man in the face, he will almost charge you the 25 cents! On the Canadian side, it is scarcely so bad ; but they have a little more of the tact of the rat-catcher. They offer you something free, then close the trap on you when they have got you in.

The whirlpool, of which so much is said, is not of great account, but the rapids are a fine sight before reaching the whirlpool. Having satisfied our curiosity at the Falls, we left for Buffalo, and visited the Town Hall and public parks. Mr A—— informed us that, when he

came to the place fourteen years ago, there were 70,000 of a population, and it now numbers 164,000.

There were three very large Savings Banks within speaking-distance of each other, where sums as low as half-a-dollar are taken in, and in all our wanderings up and down, we could not see even one intoxicated person. These two signs, sobriety and saving habits, are significant of this city's remarkable progress.

CHAPTER III.

A CITY OF LIGHT—A GAS AND OIL FIGHT—A HINT FOR GREENOCK—CHICAGO—CATTLE GRAZING ON A LARGE SCALE—THE NOBLE INDIAN—IN THE MORMON COUNTRY—OGDEN—A RIDE ON THE UNION PACIFIC RAILROAD—AMONG THE MORMONS—THE FINEST CITY OF MODERN TIMES—SALT LAKE CITY—A HINT FOR PLANNING MODERN PUBLIC BUILDINGS—SURROUNDING LOCALITY, WHAT IT WAS AND WHAT IT IS.

OUR next journey was to the City of Akron, in the State of Ohio, a busy, thriving community of about 20,000 inhabitants. The Akronites are a go-a-head people, and don't stick at trifles; have their eyes open for all improvements, and the brains to take advantage of them. A gas company had the lighting of the city, but the Corporation and the public were not satisfied with the prices charged, so they got discontented with their gas company for charging too much, and the Corporation hung the city with oil lamps, and lamps and gas burned lovingly side by side for several nights, to the great satisfaction and enlightenment of the inhabitants. The gas company were beat, the lamps were victorious; but dull oil did not suit the tastes of the Akronites; they went in, head over heels, for the electric light, and got it too; and when all the lights are fixed up, Akron will be

a city of light—not a light hid under a bushel, but a blaze of light in the midst of darkness !

The city stands on about two square miles, and two lights are already erected. One of the two is placed on an iron pillar of huge proportions ; it is about two feet in diameter at the base, erected on a strong, solid foundation, and rises to the great height of 220 feet above the surface of the ground. The spire of the Mid Church in Greenock is about 160 feet or thereabouts, an estimate can thus be formed of the height of this huge iron pole. The other light is placed on a tall wooden mast fixed on the top of the College—for Akron boasts of a College also—and these two lights illuminate a large section of the city. We could read newspaper print with the greatest ease at a considerable distance—say as far as from the railway station to Cathcart Square, or about 300 yards from the light. When the eight lights are in full operation, Akron will be the best lighted of all cities. It is asserted that the electric light will be as cheap, if not cheaper, than gas, and water power not being handy, the electric machinery is driven by steam power.

Sir William Thomson recently pointed out Greenock as the most favourably situated town in regard to water power being applied for lighting by electricity. In the recent report by Mr James Wilson, C.E., of the Water Trust, the same idea is ventilated, and as deputations have become so common of late, a deputation of the Police Board might be despatched to Akron to look about

them, and on their return report on what they saw! The deputation would enjoy the trip; whether the ratepayers would, is another question.

Akron is a most energetic, thriving, busy city. We visited a very large work, the Buckeye Agricultural Implement Manufactory. At the time of our visit they were manufacturing one hundred and five reaping machines daily, and sending out daily one hundred and thirty, thus reducing the stock they had accumulated during the winter months. The same company have another work equal in extent, and doing as much business, in another city. All the labour in these manufactories is done by the piece, and the workers make good wages. We also went over an extensive carriage factory, in which the average weekly out-put of "buggies" ranges about thirty. One marvels much where they all go to, and who buys them.

We left this city of light for Cleveland, from where, the same night, we took the steamer and crossed Lake Erie for Detroit. Arriving there the following morning, we went straight on to Pontiac, about thirty-five miles distant, and then proceeded to the residence of my apprentice master, who had for a considerable time carried on business in Greenock as a contractor, and though it was over thirty years since he left, we still continued to keep up a friendly correspondence, and to visit him was one of the objects I had in view when I left Scotland.

I remembered that he used to have a great antipathy to book canvassers and pedlars. When any of these entered his premises, if he was present they were very soon shown the way to the door, so I arranged with my travelling companion that he was to keep a little behind while I introduced myself to my friend as a pedlar.

He met me at the door, and asked me to enter. His features were little changed from what they were thirty years ago, with the exception that his hair was now white. Seeing him so little altered, I imagined that it was the same with myself, and that he would at once recognise me. However, in that I was mistaken. I produced a pair of spectacles, which I offered for sale, saying that he would find them a decided improvement to anything he had been in the habit of using, as they would have a tendency to renew his youth, and bring former days to his recollection. He now became as obstinate with me as he used to be with the pedlars. He would neither listen to me nor would he look at my spectacles, but began to denounce all hawked goods as trash, and took out of his pocket the pair he was using, and said he had lately bought these in Detroit for a quarter of a dollar, and he would defy me to produce as cheap and as good a pair out of my whole pack. I tried them, and said they were very good, but mine were a great deal better, and if after trying them he did not admit that it was so, I would make him a present of them. At last he put them on, and I handed him my card, saying that, as it was small

print, it would be a good test. Looking at the name, he exclaimed, "What is this?" Looking again, he says, "Greenock!" then looking at me, he said, "You are not the man named here." I assured him that I was. He said, "No, no, that cannot be." Re-asserting that I was no other, he walked out of the room, and instantly returned, and, standing at a distance, he eyed me from top to toe as if he had been taking my measure, at the same time saying, "You may have got my address from him, but one thing is certain, you are not the man whose name is on this card."

I then related to him several incidents of our former days, all of which he remembered and admitted to be perfectly correct, but still he had doubts as to my identity. While this was going on, I could not help saying to myself—May not the Claimant have been the right man after all? All this time we were standing; my friend now asked me to be seated, and brought in my companion and introduced us to his good lady and granddaughter, and made all haste to get his horse and buggy ready to go for our baggage.

The knowledge I had of his personal affairs in former times enabled me to dispel all doubt as to my identity, and the greater portion of the next few days was spent in answering questions, and relating the many changes and important events that had taken place in Greenock during the past thirty years, which appeared to be much appreciated by my old friend. He occupied a nice

ottage about a mile distant from the town of Pontiac. The plot on which it is built is bounded at the back by a mill pond, in which there is a plentiful supply of fish and small turtle, which we frequently saw basking in the sun on a little eminence in the centre of the pond. Beyond this pond was a marsh, from which came a variety of sounds—some as if from a wild bull, while others were hoarse and short, as if you had struck a coarse table bell and instantly put your hand on it and stopped the sound. We were told that it was the cry of the bull-frogs. We went down several times, but could never see them. We were anxious to see the little animal that could send forth such a volume of sound. Pontiac, which is in the State of Michigan, is a busy market town where farmers come to make purchases and dispose of their produce. In the main streets there is a row of stakes from six to eight feet apart, and about five feet high, extending along the kerb on both sides of the street. These are common to any one to tie up his horse while he attends either church or market. My companion often gave free expression to his feelings on the cruelty of the people in leaving their horses so long exposed under a scorching sun.

Our friend was much delighted in pointing out to us everything in which he knew they were ahead of us in the old country. A day was set apart for visiting places of interest, among which was the Michigan State Asylum for the Insane, which is a very imposing structure,

situated about three miles distant from Pontiac. In the portion of the building that is completed there are over three hundred patients, so that the Americans, along with all the good things they enjoy, have a pretty fair share of lunatics amongst them.

Our friend having considerable experience of the delay, expense and annoyance connected with purchasing or transferring a piece of land at home, was anxious that we should accompany him to the Government Land Agent's Office and to the Registration Office, where we would see the expeditious, simple and economical method of transacting business as practised by the Yankees.

On a previous occasion, while in Toronto, I had an opportunity of witnessing how expeditiously a land transaction there can be completed. I accompanied Mr Smith, who went to take off a new township (which, if I remember right, is ten miles square) of forest land, to clear it of the growing timber. The object of our visit was stated. The agent produced the map, pointed out the limits, stated the terms, and the transaction was completed with as little delay or ceremony as we would have here in purchasing a barrel of flour.

At the Register Office the books were produced, and we were shown the various stages through which several plots of ground had passed from the original purchase through a number of transfers, with mortgages and searches, some of which had been done without the assistance of an agent.

The following is what was given to us as the items of expense :—

Blank Deed,	0.12
Filling up Blanks,	1.00
Justice of Peace, Swearing and Testifying, ...	0.25
Recording Deed,	1.00
Abstract from Register,	4.00
Blank Deed for Mortgage.	0.12
Recording do.,	0.75

The whole amount for title deed, mortgage and registration is seven dollars twenty-four cents, being under thirty shillings of our money—a mere fraction of what it would cost for similar documents at home.

It was during our stay here that the attack was made on the life of the President ; the sad event caused great excitement, people driving in from the country to get the latest particulars. The morning following the dastardly attempt we were awoke about one o'clock by loud knocking at the door : this was one of the neighbours with the latest news, to the effect that there was still hope of the President's life.

Much to our regret, we had to make our stay short, and, parting with our old friend, we returned to Detroit and purchased railway coupons right on to San Francisco, taking the first train to Chicago, where we spent only two hours, as we intended spending a few days there on our return.

For many miles after leaving Chicago the fields are covered with various kinds of crops, but as we proceeded on our journey the principal crop grown is Indian corn.

Orchards are plentiful, and occasionally vineyards were visible.

We arrived at Omaha, thus completing a third of our long journey in comfort and safety, and having stopped to change carriages, we travelled onwards. In a short time we gradually got into the midst of immense fields where cattle were seen grazing in thousands. The herdsmen are all mounted, and in several instances they had the cattle gathered in large groups, but for what object we could not learn. As seen in the distance the group of cattle reminded one of a fox-cover in Renfrewshire, the mounted herdsmen, the sportsmen round the cover and the stray dogs outside, kept up the resemblance. In some cases, where the cattle were not so closely tended by the herdsmen, and a stream or pool of water near, the cattle were to be seen standing in the water, nothing visible of them but their backs and heads, and seeming to enjoy their cold bath.

Along the railroad were to be seen great numbers of prairie chickens and huge butterflies, some of them of most beautiful colours. We were now running along the level prairie lands, where there was nothing to break the monotony of the view save a solitary tree now and then, or perhaps a farm hut away in the distance, reminding one of the ocean with a ship appearing occasionally on the horizon.

There are many villages along the line where the trains stop, some of which are kept up by the railway company,

and at most of them there is a refreshment room or dining saloon, which is generally attended by black waiters. In some instances the blacks had given place to Chinese waiters, and everything in the shape of refreshment is served expeditiously, and on the shortest notice. At some of the stations there were to be seen Indians with their families—a wretched, dirty lot, quite different from the “noble red Indian” of the novelist. They did not beg, but merely sat in their dignity and dirt, and looked on. Some of their children, who had bows and arrows, were kept very busy by the passengers placing a coin on a peg, when the boy who struck it off with his arrow claimed it. At this work, the boys, who were from eight to ten years old, were remarkably clever, and the certainty of their shooting quite astonished the on-lookers. The Indian dwellings were situated outside of the villages. They are called “dug-outs.” The roofs of them were very like the potato pits on a Scotch farm.

At Larnie city we came across what was to us a singular spectacle. It was a train decked out in mourning. Some of the carriages had three huge black and white rosettes placed on each side of them, and black and white pennants and festoons hung from the roof on each side of the rosettes. This strange mourning display was said to be on the occasion of the death of one of the “conductors” of the line.

We were now far beyond the bounds of civilisation, save what was clustered in the villages along the line.

The bones, white and bleached, of numerous cattle that had died, lay on each side of the rails. They lay in clusters here and there—some fresh looking, as if the animals had died but this season, and others as if they had lain for years.

We had traversed a great distance of level and undulating prairie land. Each little village along the line seemed the outposts of civilized life; and in the future this vast expanse will probably be a cattle-rearing, grain-growing country, whose surplus products will be carried by railway to the seaboard for shipment to other countries.

This Union Pacific Railroad is a great undertaking—a mighty agent in colonising and developing the vast resources of the lands through which it runs, and every year adds to the population, wealth, and trade of this portion of the United States.

Having been now two days on the train after leaving Omaha, and running a distance of about 940 miles, and 7,500 feet above the sea level, we passed from the territory of Wyoming into Utah. About twenty miles further on we arrived at Evanston, where the train stopped half-an-hour. This is a thriving village, with about 2,000 inhabitants, where there are extensive saw-mills and coal mines. The Railway Company own some of the mines, and also extensive engineering workshops, which employ a number of inhabitants all the year round. This station was very much admired by the passengers,

most of whom dined at the Mountain Trout Hotel, where they were very expeditiously served by Chinese waiters, who were all dressed in their native costume, and wore their "ques." They all spoke good English, were very polite, attentive, and anxious to give information to all who asked it. The Chinese have a settlement here, with their Joss-house and other native attractions. On leaving the dining-room, our curiosity was excited by a number of Indians who had come upon the scene, with their children, some of them very gaudily dressed with shining trinkets, furs, and feathers, and their faces daubed over with red paint. They did not beg, but there was a vacant stare in their countenances which told its own tale; when anything was offered them, they took it as if with reluctance, and turned their faces away, putting one very much in mind of the look of a dog to which you had offered a large piece of bread.

While the train was stopped at one of the stations, a gaudily-dressed, tall, masculine-looking female Indian took up a position on the platform of our car. In her hand she carried a fine little tomahawk, very highly polished, and the handle decorated with rings and round-headed brass tacks. One was driven into the end of the handle, fixing a rosette of various coloured ribbons. The weapon seemed more ornamental than useful. When spoken to she did not answer. She was handed a coin, and asked if she could speak English, but she gave no symptoms of hearing, when one remarked tha

she was perhaps a dummy. The engine-driver, who had been looking on, said if we gave her two or three glasses of whisky we would very soon hear her speak English like a politician. He said the greater number of the Indians who frequented the stations pretended they had no English until they get drunk, and then they could speak English very well.

The Railway Company on this line allow the Indians to travel free upon all freight trains, so that it is quite common to see Indians and their families perched on the top of a truck of goods or in cattle trucks. Some of them travelled short distances by our train, but did not mix with the passengers. They kept on the platform outside. It is said that the Railway Company have got the Indians under the impression that they only have the right to ride free, because the railway belongs to them. Under this impression, they do their utmost to protect the line from being injured. It is well for the safety of the trains that the Indians should remain in that belief—were they to take up a position antagonistic to the railway, the consequences might be serious for both the Railway Company and the passengers.

From this point on to Ogden is about eighty miles, the line having a gradual fall of over 3,200 feet. This is the grandest, though the wildest and most dangerous, part of the journey. It is difficult to say whether there is most danger from the treacherous-looking narrow ledges, deep chasms, and sudden turns that the train has to follow along

the margin of the Weber River, or from the shattered overhanging mountains which you imagine the vibration of the train would set in motion at any point. The close proximity of the mountains above and the rapid flowing of the river beneath give an apparent velocity to the train that is terrific. This feeling is intensified by the rushing sound of the train and the steam whistle, the echo of which is heard overhead reverberating from cliff to cliff as if you were in the midst of a thunder storm. Here the curves of the line are so sharp that the passengers in the front carriage are for a moment just within speaking-distance of those in the last carriage, when all of a sudden the front carriages turn in the opposite direction, and the train, which is over seven hundred feet long, assumes the form of the letter S. This exciting scene continues for more than thirty miles, until we pass the Devil's Gate and Slide, where we emerge into the open country where cultivation is carried to great perfection by the Mormon settlers. In a short time we arrive at Ogden City, where all have to change carriages, this being the western terminus of the Union Pacific and the eastern terminus of the Central Pacific Railway.

After an hour's delay, we take the train on the Utah Central Railroad to Salt Lake City—distance, thirty-two miles. The fare is about threepence per mile, and it is one of the best paying lines in the States. This railroad was one of the enterprises of Brigham Young. When the Union and Central Pacific Railroads were completed

they met near Ogden, their combined length being 1,914 miles. Necessarily a great deal of material was left over, which was purchased and used in the construction of this line, which is thirty-two miles in length from Ogden to Salt Lake City, it being completed within nine months from the time the ground was broken. There was little cutting or filling up required, as it passed through a level track of country from five to six miles broad, having the Salt Lake within a mile and a-half on the right and a mountain range about four miles to the left.

There are several stations and villages along the line, the inhabitants of which are chiefly employed in agricultural pursuits. Arriving at Salt Lake City, and taking a run over it, we came to the conclusion that, with one exception, it was the finest city that we had yet visited, the streets being 130 feet wide, all set off at right angles and at such a distance from each other as to give ten acres to each building block. Some of these blocks are again sub-divided into four building plots, and those in the workmen's district are again sub-divided into eight building plots, giving one and a quarter acres to each plot. The ground is generally used as an orchard, and the houses are all placed back at a uniform distance from the line of the street, so that there are invariably fruit trees between the streets and the houses. Four of these blocks, containing over forty acres, are walled in and set apart for religious institutions. On one of these

plots stands the Tabernacle, a large, rough-looking building, about two hundred and sixty feet long by one hundred and fifty feet wide and eighty feet high, with semi-circular ends, and covered with a dome roof, supported on a succession of stone abutments, each about ten feet broad and three feet thick.

The thickness of these abutments and the spaces between them, all of which are doors, form the exterior of the building. The breadth of the abutments runs in towards the centre of the building and forms the support for the back of the gallery, which is carried round the two sides and one end. At the other end is a platform, whereon the grand organ is placed, on each side of which are the seats for the choir, which numbers about four hundred voices—the one side being occupied by females and the other by males.

In a line right in front of the organ there are three pulpits, each being at a lower elevation as they recede from it. Elevated a little above the area beneath the third pulpit is the elders' bench. On each side of the pulpits are seats for those who take an active part in Church matters, and who occasionally address the audience. In the area there is a passage all round next to the external walls. Other three passages run the whole length of the area. In the middle passage, and right in the centre of the building, there is a grand ornamental fountain, from which, during service in summer months, there is a flow of iced water. In the

roof there are several cupolas, and the ceiling is a complete network of festoons, formed of evergreens and flowers. Each panel on the front of the gallery has a shield or ornamental design, in the centre of which a letter is placed. These letters give the motto, "God Bless our Mountain Home."

Though there is accommodation in this building for thirteen thousand people, yet there is never any crushing or inconvenience on entering or leaving; those on each side of the centre passage walk along towards the exterior, and a door faces them at whatever point they reach. Three minutes are sufficient at any time to evacuate the whole building. The Tabernacle is used for worship during the summer season only, it being too large for artificial heating.

In the winter season the meetings are held in the assembly hall, which is a beautiful granite building erected on the temple block alongside of the Tabernacle. It has a centre tower, two spires and a great many minarets, is heated by steam, lighted with gas, and has a grand organ, and is seated to hold about three thousand people. On the east of the same block a temple on a grand scale is at present in course of erection. The mason work is about forty feet above the surface. Judging from what is already done, this promises to be the most substantial and picturesque building in the city.

On the occasion of our visit, had we not known that we were in the Mormon Tabernacle, we could not have

observed the difference from a Presbyterian Church by either the rendering of the service or the matter of the discourses, which, after the usual prayer and praise, were delivered by an occasional layman, who left his pew and ascended one of the pulpits. At the close of the service the President stated that since his last intimation eighty-one thousand dollars had been subscribed towards the erection of the new temple, and there were now only five thousand more required for its completion. There was no money collected at either of the diets.

There is a general impression that Salt Lake City is inhabited by Mormons only. Such is not the case now, though it was so at first. It is said that there are twenty-one thousand Mormons and about seven thousand Gentiles, who are of various religious denominations. The Methodists, Episcopalians, and the Presbyterians have each their places of worship in the city.

After dinner, we resolved to have a view of the city and its surroundings from Ensign Peak, that being the mountain at the base of which the city is situated. Shortly after starting, we had a friendly chat with one of the settlers, to whom we made known our intention. He asked how long we expected it would take. On telling him, he advised us to go no further, assuring us that the distance was three times what we anticipated, and it would probably be dark before we reached the peak. We took the hint and postponed our trip till the following day, when we set out a-new, and long before arriving

at the summit, we found we were much indebted to our adviser of the previous evening, and were forced to the belief that our vision as to distance was much more deceptive than usual, which defect we attributed to the rarified atmosphere and elevated position of the country.

Ascending towards the peak, the ground was literally teeming with animal life, of which every step gave an indication, by the efforts of numerous insects springing to the side as if to make way for us, conspicuous amongst them being the grasshopper, but very different from those we are accustomed to at home. Some of them were larger than the humming bird, their flight seldom exceeding more than from thirty to forty yards. We made several unsuccessful attempts to capture one, but, whenever we came within reach, it took a spring and repeated its flight with as much vigour as before, so we gave up the chase. There were indications of an old cart road a long way up the steep incline. This somewhat puzzled us, until we observed at various places little artificial mounds, one of them within a few yards of the summit. These had been thrown up by the original settlers when exploring the mountains for gold. The cart track referred to was that along which the workmen conveyed their implements as far up hill as that mode of conveyance would permit. No mineral having been found of sufficient value to remunerate the miner, Ensign Peak has been spared the indignity of being subjected to disfiguring operations, and is now likely to be left alone in its natural beauty.

Fatigued and out of wind, we arrived at the summit, and were amply rewarded for our labour in the magnificent and impressive scenery that lay stretched out before us. A little to the left, and apparently at our feet, stood the city, which is about three miles square, the ponderous Tabernacle and the half-built temple forming prominent features in the foreground. At the base of the mountain, and just in front of us, is the plain through which we had passed on arrival, beyond which is the green marsh land receding in the distance till it merges into the Salt Lake, whose water is seen reflecting, like a vast mirror, the different objects on its shores. To the left, and beyond the city, is the rich valley of the Jordan, covered with crops and studded with farm-houses, which seem like specks in the distance, and ultimately are lost to view before reaching the base of the mountains which enclose the valley on each side.

Some of the deep gorges and fissures on these bleak mountain sides are covered with snow, giving them a pleasant variegated appearance, in beautiful contrast to the alternately green and yellow fields in the plains beneath. The dissolving snow forming little streamlets, trickles down the slopes which, in former times, found their way through the barren plain into the Jordan, leaving little streaks of verdure along their course. What a contrast is the present scene with the past !

Thirty-four years ago, the evicted Mormons came upon the scene, claimed this desert as their home, and



MORMON TABERNACLE.

TEMPLE BLOCK.

MORMON TEMPLE.
(IN COURSE OF ERECTION.)

with firm resolution and willing hands turned Nature's stores to their own purposes. Having fixed on a site for their city, they set to work to form ponds in the creeks, and to cut a canal along the sides of the mountains, intercepting the streamlets a little way above the plain, and leading the water to such points as were most advantageous for the irrigation of the plain. Descending from the peak, we stood for a little on the bank of the canal right over the city, and contrasted the barren sage-covered land above with the gardens and orchards of the city beneath and the rich, fertile fields beyond, and had to confess that whatever may have been the faults or failings of the Mormon settlers, the scene before us showed an amount of industry and perseverance that it is doubtful if it can be equalled anywhere else. They have, in very truth, made the "wilderness to bud and blossom as the rose."

From this point we descended into the city, and had a pleasant stroll through the streets, where we found much to engage our attention. From the canal we had just left there was a stream of water flowing down on both sides of each street. The channel-ways for this water were about eighteen inches wide, nine inches deep, and formed of wood, with little sluices at points suitable for diverting part of the water into the gardens; its chief use being for irrigation and flushing of gutters, the domestic supply being brought in iron pipes from the water works at City Creek Canon, which is at such

an elevation as gives sufficient pressure for extinguishing fires, and for that purpose there are stand-up hydrants placed at short distances along the sideways.

To these hydrants are attached the hose for watering the carriage-ways, which, during the summer months, is done every day except Sunday, this being part of the duty of the men of the fire brigade. Outside of each footpath, between the water course and carriage-way, there is a fine row of shade trees, while on the other side of the footpaths the trees of the orchards overhang the pathway, forming a pleasant, cool, shaded grove to walk under—the pleasure being much enhanced by an abundance of flowers, and all kinds of fruit overhead, quite within arm's-reach, and in many cases considerable quantities lying on the footpaths. None of the citizens are tempted to pull them, as everyone has an orchard of his own, in which there are apples, pears, cherries, peaches, apricots, grapes, &c. Every kind of fruit seems to grow to perfection, except the gooseberry, which is very small, hard, and covered with small thorns.

Tramway cars are run in every direction from the centre of the city to nearly three miles distant, the driver acting the part of guard. The cars are drawn by mules, each of which is branded with the letter Y, the latter being at one time the property of Brigham Young.

Not having observed any policemen in our rambles, we inquired how it was—if they were dressed in plain clothes? We were informed that there was no such

official required ; that the city was divided into wards, and each ward had a surveyor or master who attended to its interests, and intimated to the inhabitants when their labour was required to carry out any public improvement. There was no evading this intimation ; each had to turn out or send a substitute, and had at all times to take the responsibility of protecting his own property. Our informant stated that formerly they had neither lawyers nor publicans, but now that a great many Gentiles had settled amongst them, both these occupations had got a footing.

CHAPTER IV.

SALT LAKE TO OGDEN—A PAISLEY MORMON'S EXPERIENCES
 —NO END TO INTRODUCTIONS TO SCOTCH SETTLERS—
 EFFECTS OF IRRIGATION—CORINNE—NORTHERN EX-
 TREMITY OF SALT LAKE—RIVERS RUNNING IN, NONE
 RUNNING OUT—THE GREAT AMERICAN DESERT—CLOVER
 VALLEY—ITS DEEP WELLS—A LOST RIVER—A FIELD
 WITH HALF-A-MILLION OF CATTLE—THE MAIDEN'S GRAVE
 —THE UTILITY OF FLUMES.

WE now resolved to bid adieu to Salt Lake City, regretting that we had not a few days to spend in visiting the rich silver mountains and gold mines of its neighbourhood, more particularly the notorious Emma, of which we had heard so much, and which is only thirty miles distant. Taking train, we concluded to spend a short time at Ogden, where, on arrival, we had scarcely stepped on to the platform, when one of the railway officials, who originally hailed from Paisley, hearing our Scottish accent, at once claimed kindred with us, and like all others with whom we had met on our journey, there was no limit to Mr John Crawford's attention and kindness. Finding us strangers, and having a few hours to spare, he at once proposed to leave off duty and act as our guide, and even pressed us very much to lodge with him for the night. The former offer we accepted,

the latter we declined. Having arranged about our baggage, he then proceeded to show us over the city, in course of which we thought there was to be no end to his introducing us to Scotsmen, who, a few years ago, had settled there with little or nothing to begin with, now carrying on extensive businesses of their own, and many owning large blocks of property, the result of their indefatigable perseveranee. As we passed along, our friend occasionally drew our attention to the extraordinary fertility of the district, which in his own recollection was an unproductive, barren waste, with nothing to recommend it but the natural beauty of the situation and the advantage of little streams of water from the mountains that had been intercepted by an artificial canal, and distributed over the soil so as to produce the luxuriance now before us. We were taken round till reaching our friend's residence, more than a mile distant from the station, where he owned a plot of two acres, on which were erected two very compact and comfortable houses; one acre was used as an orchard, the other acre was growing alfalfa, of which he gets four crops in the twelve months, producing sufficient to keep two cows and a quey all the year round. Here the wife and a little son and daughter were busily engaged, the young ones pulling fruit, and the mother, with a machine, taking the heart out of apples and stones out of apricots, and cutting them up into thin slices, so as to be easily dried. All round their dwelling were set long broad tables, as if

prepared for a public banquet. These tables were covered with various kinds of fruit, cut into thin slices and drying in the heat of the sun, so as to preserve them for winter use. After we had been introduced to the family, the young ones exerted themselves very much to secure from the upper branches of the trees the best and ripest of the fruit to make us a present before leaving. In the course of conversation, our friend said he had all along been a working-man, he had no debt, and what he had shown us was his own saving. The trees were the growth of fifteen years, at which time he had purchased his plot, when all around was a desert covered with sage brush and sun-flowers, with scarcely a tree within sight. Now all around were streets and dwellings, with gardens and orchards, producing every kind of vegetable, flower, and fruit. In conversation, it transpired that our new acquaintance was brother-in-law to a very much-respected and long-established merchant in Glasgow, with whom we have had frequent dealings. Our friend said that over twenty years ago, having become a convert to the Mormon faith, the other members of his family ever after looked upon him as a black sheep. True to his faith, he preferred to sacrifice the society of his friends rather than his religious convictions. About eighteen years ago he left his native country, landed in America, and decided to make that country his home. There was no railroad over the desert at that time. The journey then occupied several months—his gun being his best friend by the way, often

securing him a supply of fresh meat ; and as we parted, he said that he never had any cause to regret the course he had taken.

Resuming our journey westward by the Central Pacific Railway, after leaving Ogden and for a considerable distance we passed several villages and well-cultivated farms, orchards and gardens. The district owes its fertility in a great measure to artificial irrigation by the water from the creeks and mountains being intercepted by canals and turned on to the land at suitable places, this being altogether accomplished by the persevering industry of the Mormons, who are the principal inhabitants until we come near Corinne, about thirty miles from Ogden.

At Corinne we were informed that the Gentiles have always been in possession of this place, and are likely to keep it. There is some very good land here that can be got on very moderate terms ; but the want of water for irrigation is the chief obstacle to its being taken up. About forty miles from where we started, we came close by the northern extremity of the Salt Lake, where for many miles we have a beautiful view of it, with the Monument Rock (in Ailsa Craig fashion) towering out of the water and forming a very prominent object in the scenery. The lake is said to be about ninety miles long and fifty miles broad. Within the last three years the American Government had it surveyed to ascertain if there were any visible outlet from it or any whirlpool

that would indicate an underground outlet—but none has been discovered. We observed flowing into it, at several points, the Jordan, the Weber and the Bear rivers, all of considerable size. There are besides these a number of other streams continually flowing into it, and although there is no outlet from it, yet there is never any perceptible rise or fall in its waters, which are very dense and salt, six gallons when evaporated leaving one gallon of solid salt.

Passing through the great American desert, we get into Clover Valley. Here is Wells Station, where there is a village of about three hundred inhabitants and railway workshops. This place derives its name from a great many wells that are in a plain situated near to the village. These are over thirty in number, and are very deep, a line having been put down 1500 feet without reaching the bottom.

Near to this is the source of the Humboldt River, which for the next four hundred miles runs through a valley of the same name, supplying in its course several irrigating canals. The railway follows very much the same track until reaching the Humboldt Bridge, where the river crosses to the left of the line, then very shortly ceases to exist as a river, the water gradually spreading out into a large sheet extending over an immense plain, until, by process of irrigation and evaporation, it becomes altogether imperceptible, except in its fertilising effects on the extensive hay meadows and grazing pastures which

in the distance extend far beyond the range of the naked eye. It is said that there are over four hundred thousand head of cattle constantly grazing on these pastures.

Amongst the many novelties that attracted our attention in passing through the desert, were the emigrant mulc trains we occasionally overtook by the way. All were following the old emigrant road, which in some instances runs close by the railway, at times taking the higher lands for a nearer route. In several cases we observed them encamped near a railway station, or at some spot where their mules could forage food for themselves. As seen from the car windows, jolting slowly along, they exhibited a very melancholy and worn-out appearance, and, judging from their looks, they envied very much the rapid motion of the train as it passed.

At a few points along the line, it appeared that rock blasting had been carried on with great vigour, judging from the immense blocks that had been thrown a great distance from the cutting. Occasionally we observed on the margin of the line little ridges, which appeared to be graves of workmen who had died, or had been killed while the line was being constructed. No doubt was left as to this being the case, on observing three side by side, with a rude wooden cross placed at the head of each. There was one grave that could scarcely fail to attract attention, both from its prominent position and the clean, tidy enclosure that surrounded it. It is known as "The Maiden's Grave." This is at "Gravelly Ford," where

the Humboldt River spreads out for a short distance, and is easily crossed; it was a fine camping place, where emigrants rested and set their cattle free to graze. Here is the story of the maiden, as it has been recorded :

“She was one of a party of emigrants from Missouri, and at this ford, while they were in the camp, she sickened and died. Her loving friends laid her away to rest in a grave on this point of the land, in plain sight of the ford. But while her remains were crumbling into dust, and she was fading from the memory of all, perhaps, but her immediate relatives, the railroad builder came along, and found the low mound and decayed head-board that marked her resting-place. With that admiration of and devotion to woman which characterise Americans of even the humblest class, they made a new grave, and surrounded it with an enclosure—a picket fence, painted white—and by the side of it erected a cross, the emblem of the Christian’s faith, which bears on one side this legend—‘The Maiden’s Grave;’ and on the other her name—‘Lucinda Duncan.’ All honour to the men whose respect for true womanhood led them to the performance of this praiseworthy act—an act which would have been performed by no race under the heavens but ours, and not even by them, indeed, to the remains, under similar circumstances, of a representative of the sterner sex.”

Continuing our course we reach Humboldt House, one of the regular dining stations of the line, and the most pleasant we have yet reached. Perhaps it is rendered all

the more attractive from the fact that, for nearly four hundred miles, we have seen little or no cultivation by the way, not even a good-sized tree. Here, in the midst of a desert, we are all at once landed in a little paradise, surrounded with shady trees ; a few fields with heavy crops, also a garden and orchard well stocked with vegetables, flowers, and fruits ; and water, though brought from a great distance, is very liberally supplied to fountains, fish ponds, &c.

Everything is done to make the hotel and its surroundings pleasant and comfortable for the tourists who choose to stop by the way, to visit the sulphur mines and springs that abound in the neighbourhood. The station is extensively used for loading sulphur. Having spent half-an-hour here we resume our journey, and very soon reach the White Plains, which are very appropriately named, the whole district being covered with a deposit of salt, resembling very much a slight fall of snow, or the hoar frost that is often seen in winter mornings. About twenty miles further on, and half-a-mile to the left, we came in view of the springs, which are said to be boiling hot. Their locality is easily made out from the steam that they give off ascending like mist in the air, A little further on, and to the right, nearly two miles distant, we observe at the base of the mountains extensive works in connection with the salt springs. The water is pumped from the springs into the pits, and allowed to evaporate by the heat of the sun ; the salt is then shov-

elled out of the pits, and taken down to the railway, where there are several loading stations with large quantities lying in bulk ready for shipment. The salt is said to be very pure, but, as seen lying at the station, it has a very dirty appearance.

In passing along there were many things that attracted our attention, but what seemed to us the greatest novelty were the flumes, many of which we had observed by the way, though we had no opportunity of a close inspection till now that we had reached a station in the neighbourhood of works where one terminates. A flume is just a Scotch water trough, though somewhat different in form and construction. A Scotch water trough has a bottom, and two sides, while a flume has two sides but no bottom, its section being very like the letter V with its points a little extended, till it is about from two and a half to three feet wide at the mouth, the intersection of the two sides being placed downward and set upon trestles supported by a bracket on each side, the trestles being placed about six feet apart. At this point the flume is from eighteen to twenty feet above the ground, and seemed to be the same height, so far as we could see it along an easy ascending incline. We are informed that along its course, in some places, when crossing valleys, it was from seventy to eighty feet above the ground, and about fifteen miles long, in which distance it had a grade of nearly one hundred feet to the mile. Flumes are principally used to convey water from mountains to mines, public works, and

sometimes for irrigation and domestic purposes. This mode of conveyance is preferred where the water has to be carried across valleys or over a district with a gravelly bottom, and which if carried in canals would be probably altogether lost before reaching its destination. These contrivances are also used for conveying timber from the mountains to the mines, log succeeding log, only one occupying the width of the flume at one time, and the distance of fifteen miles is accomplished in less than half-an-hour.

CHAPTER V.

SACRAMENTO—OMAHA—NOVEL HARVESTING—PROFESSOR LEVI AND LAND TENURE REFORM—AMERICAN COMPETITION—LAND LAW REFORM, AND HOW A SCOTCHMAN SOLVED THE PROBLEM—HIS EXAMPLE WORTH FOLLOWING—SAN FRANCISCO—ITS WHARVES, TELEPHONES, AND MINT.

PASSING from the State of Nevada into California, it is not long till we encounter an immense row of snow sheds. We previously passed through some comparatively short ones, but here we have nearly forty miles at one stretch, but as they are passed in the night-time, when most of the passengers are asleep, they are but little observed. They are constructed principally of wood, the roof being sometimes flat, so as either to carry weight or allow the snow from the mountains to slide over them. Where the ground is such that the snow will not slide from the upper side, a couple-roof is used.

In no case did the sheds appear to be entirely dark. There are so many openings at the bottom, and bad joints in the cleading, that there is always a fair supply of light to the inside. In long stretches of this kind there is always danger from fire in dry seasons. In order to meet any such emergency, there are, at short intervals, sections where both sides and roof are covered

with corrugated iron. There are also self-acting fire-alarms, which communicate with a station at the extremity of the shed. The alarm indicates the exact position of the fire at the station, when an engine, which is always kept in readiness with water tanks and a fire brigade, is at once despatched to the scene of action.

In the evening we retired to rest in the midst of a bleak, uninhabited district. In the morning when we awoke, the scene was completely changed. We were now passing along the side of a hill, to the right of which was a beautiful valley, with a river winding along its course, and the ground rising gently on each side, with occasionally a cosy-looking dwelling, and well-cultivated gardens and vineyards. Since crossing the muddy Moursie river, all the streams by the way were naturally clear and transparent, while these we were now seeing were dark, and so thick with mud as to give an apparent sluggishness to their motion. On inquiry, we learned that this was the effect of the operations of the gold diggers, who divert the water from the river at some point suitable for giving them a good head of water when it reaches their claim. They then direct it with as much force as they have at their command on to a strata of gold ore. The water carries off all the mud, leaving the heavy metals along with gold. The water, thus polluted, finds its way by little streamlets back to the river from which it was taken, and which in its turn becomes so thoroughly polluted that in some instances the natural

bed of the river is completely silted up, and the water forced into a new channel—in some cases much to the loss and annoyance of the proprietors who have land near its course.

As we approached Sacramento, the country gradually spread out into a great plain. To our left there were extensive orchards in various stages of growth, from the newly-planted sapling to the ten-year-old full-bearing trees. These orchards have a beautiful appearance in passing. Looking up the long lines of trees, each space between them has the appearance of a long avenue, converging to a point in the distance. This continues for miles, till at length we gradually get into a great farming district, where the whole country seems to be one extensive wheat field, with no apparent break in view, except an occasional farm-house, and the roads and fences, which are but “few and far between,” and scarcely observable, unless you get an end view of them in passing.

For a considerable distance after leaving Omaha, we admired very much the natural richness of the country, and the great extent of green crops we passed by the way. Little then did we think that what we admired so much was in a few days to be so entirely thrown into the shade. Here we are, as if it were, in the midst of an ocean of grain, quite ripe, the harvest in full swing, and the reapers busy at work. Our attention was arrested by the novelty of American harvesting. The grain is

not cut close to the ground, neither is it tied into sheaves, built into stacks, or dragged into barns, as is usually done in Scotland. When a field is to be cut, a central spot is fixed on as a depot, where all the grain is carted to. Each reaper is drawn by horses, and has three waggons to attend to it—one waggon alongside of the reaper being filled, the second waggon at the depot discharging its load, and the third travelling from the depot to be ready to take its place alongside of the reaper when the other is full, so that there is no need for stopping till the reaping of the field is completed. The straw being of little value, the reaper is set to cut about half-way down, or as low as will ensure getting all the heads of the grain. The reaping being completed, the steam-thresher comes alongside of what appears to be a mound of straw, and in a surprisingly short time it is threshed, and the grain winnowed, measured, filled into sacks, and made ready for the market, without being removed from the field where it grew.

After the grain has been removed, the hogs, cattle, and poultry are driven into the field, to pick up what best suits their respective tastes, and the straw they leave is the only manure required for the next season's crop.

Seeing immense piles of sacks of grain lying exposed in the fields and at the stations, we remarked to a farmer that there was surely a great risk in leaving the bags so exposed to the weather; if it came on rain, the grain would swell and burst the bags, and get destroyed.

He laughed, and, in reply, said it took a little time for old country people to understand their American climate, and assured us there would be no rain for two months to come. He informed us that when we went from sixty to eighty miles further south, we would find, instead of waggons, a threshing machine accompanying the reaper, and the grain being threshed, winnowed, weighed and filled into bags as it was being cut by the reaper.

As an instance of the encouragement given by Americans to new inventions, there is at present a large premium offered to anyone who will produce a portable flour mill to accompany the thresher in the field that will successfully grind the grain into flour as it is being threshed! Many of our Scotch farmers think this is impracticable, they being under the impression that the grain would require some time to dry after being cut. On this point there need not be the slightest doubt. Owing to the hot weather, the grain, when newly cut, is so dry and hard that it might be used for shooting sparrows.

In the latter part of the eighteenth century, Scotch farmers had peculiar ideas for machine labour farming. The late John Kelso Hunter, in his "Retrospect of an Artist's Life," relates when he was a boy that an old farmer, an elder of the Church, was the first in the parish who "used fanners to dight his corn, and for such transaction he was put under the lesser excommunication of the Church. He was deemed unworthy to eat God's

bread unless he was willing to wait for a wind from heaven to winnow the grain. As he had applied to the devil for help, he could not remain in connection with the Church ; and unless he repented and laid aside his winnowing machine, he would be put under the greater excommunication by being given over to the devil and damnation for ever !”

A few weeks ago, the Earl of Dalkeith, presiding at the dinner of the West Teviotdale Agricultural Society at Hawick, referring to the agricultural depression, said “that better judges than he could pretend to be thought farmers were only under a passing cloud, which would soon clear away. He did not think American competition so overwhelming that British farmers could not contend with it.”

It will be a great misfortune should the industrious British farmer pin his faith to such statements as these, coming as they do—it may be with perfectly honest convictions—from interested parties. Let him take advice, and, if at all practicable, go, examine, and judge for himself ; then he will have little difficulty in coming to the conclusion that the cloud which he is told will soon pass away is gradually becoming darker, and will ultimately completely settle over him ; while the landed proprietor will, in his turn, learn that he has more to fear from the “immense and far-reaching consequences” of American competition than appears at first sight ; and no Land Bill that is likely to be passed by the British

Legislature can put him in a position to fight successfully against odds so overwhelming.

Let the farmer and the landowner take an unprejudiced view of the facts, and each judge the case for himself, at the same time bearing in mind that the American farmer gets no State aid, as is sometimes asserted, his advantage being altogether in the rich, cheap land, and a climate naturally suited for raising and ripening his crops, the result being that there is little more than one-third of the labour required for harvest operations, while the same applies to nearly the same extent in the preparing of the soil for the seed. From the time the American farmer breaks the ground till the grain is ready for the market, the saving in labour alone is more than sufficient to meet the expense of conveying his produce from the farm to the British market; the British farmer's proximity to the market being fully compensated to the American farmer by his labour-saving advantages. It is the rent of the land that the British farmer has mostly to contend with, and where the landed proprietors will in the future have to play an important part in coming to the rescue.

The American farmer generally owns the land which he farms, and can purchase the very best agricultural land at from five shillings to two pounds sterling per acre. If it be so situated that the water for irrigation requires to be purchased from a Water Company, it will cost from two to four shillings per acre, and the labour attending the irrigation will cost from two to three

shillings per acre. Taking the maximum of the last two items, and giving the farmer five per cent. on the money invested, the total annual cost will be under ten shillings per acre for land as good as that for which our home farmer is paying in rent from two to three pounds sterling per acre. This state of matters very naturally suggests the question—Who is responsible for such high rents? It certainly is not the landlord, who advertises when he has a farm to let, and gets offers sometimes from twenty to thirty competitors, all of whom seem respectable men, with considerable capital at their command. No one would deny the landlord the right to select the offerer that is most favourable to himself. In this way the rent of the land is regulated by the competition amongst the farmers themselves.

It would be well for the farmer if he could but see the change that farming is undergoing at the present time, a change that is brought about in a great measure by the construction of the Union Pacific Railroad having opened up immense tracks of agricultural land and facilitated the conveyance of its produce to the British market. In the San Joaquin Valley there is a track of rich land about two hundred and fifty miles long and forty miles broad, where a few years previous to the opening of the railway no crops were cultivated, the land being considered worthless. The whole district is now one continuous wheat field, yielding heavy crops, irrigation taking the place of rain. Along

the line there are many similar tracks of land waiting for the farmer to make them productive.

Before departing from that vital question for the farmer—the question of land tenure reform—I wish to refer shortly to what Professor Leone Levi has said on that matter. He states that “all must lament the depression in agricultural industry, but the cause of it was want of sunshine and the excess of rain, and that what agriculturists now wanted was not protection from foreign competition, but improvements in our land laws, greater facilities for investing in land and for the transfer of land, and the removal of the privileges which kept the ownership of land in the hands of a very few individuals.”

The Professor is right so far, but I am afraid he fails to grasp the full reality of the practically unlimited resources of America in grain-growing, cattle-rearing, and their remarkable facilities of transport. So far as can be seen, the foreign competition, which is all but ruining the farming interests at home, seems but in its infancy, and the time is not far distant when American produce of all kinds will flow into this country like a mighty river, breaking down all competitive barriers, and forcing a revision of our land laws to an extent that even Professor Levi cannot forecast the limits.

As an instance of how men of intelligence and energy solve this intricate problem to their own profit, the following conversation that we had with a Scotch farmer

will clearly show. He was a fellow-passenger with us from Liverpool to New York. There were the father, mother, four sons and four daughters. The youngest son and daughter would be 12 and 14 years of age respectively ; all the others were grown to manhood, and had the appearance of being the right sort of people to better their condition in the new world.

The father and mother seemed to possess a considerable amount of common-sense and sturdy independence. Here is the tale, as told to us by the father—"Our lease was at an end this term, and for several years past we had just been working for the landlord. The last two years we had to encroach on our capital, in order to keep square with him, and every year that was becoming more difficult to do. I began to lose heart, and was always speaking of going to America. My better-half seeing that I was in earnest took speech in hand, and said 'You will do nothing of the kind. Would you take us away to a place that you ken nothing about, and do not know a living creature there? But I'll tell you what to do—Just leave me with the family and the farm, and I'll do the best I can with them till you come back, and you can go to America and see what like a place it is before you take us there.' I thought this was quite a practical suggestion, and turned my attention to making arrangements to proceed on a voyage of discovery, and shaped my course for Minnesota, where I fortunately met an old acquaintance, from whom I got some information

as to the best place to invest in land. The result was that before returning I purchased eight hundred acres of land at eight dollars (32s) per acre, being six shillings per acre less than I formerly paid of an annual rent. Previous to returning, I made arrangements for cropping a portion of the land, and have now about 200 acres in crop. I am now proceeding there, with my family, to take possession, and have resolved to make it my home for the remainder of my life."

This was a most practical solution of the land question. Our hard-headed friend who heretofore simply toiled at home year after year to pay his rent, was now in possession of an estate of eight hundred acres in his own right, purchased, too, at six shillings less per acre than that of rent he paid at home. This little incident is well worth pondering over by our farmers in this country, and should lead them to look over the water for bettering their circumstances, instead of competing and unduly raising the rent of farms at home.

Leaving the wheat district, we pass through a great extent of swamp land, where there are large herds of cattle grazing. They appear small in size when seen amongst the long grass on which they are feeding. Shortly after emerging from these swamps, we arrive at the Strait of Carquinez, where the train is divided and transferred to a ferry boat, in form like an enormous raft, propelled by two engines, which are placed in the centre,

the one right in front of the other, and two lines of rails on each side. This boat is 425 feet long, 115 feet broad, and draws about six feet of water. The railway engine proceeds on board with the first half of the train, and a spare engine pushes the second half on board, then pushes it on shore on the other side. The whole time occupied in dividing and crossing (about one mile), and connecting on the other side, is about twenty minutes. In an hour more we arrived at Oakland, and were run into the bay on a wooden platform, about three miles in length, where we left the palace cars and proceeded on board a large ferry boat, where the upper deck is exclusively for the use of passengers, and the lower deck, which is on the level of the piers, has a cabin fitted up on each side for passengers, and the centre is reserved for two lines of horse carriages, lorries, or vans, of which a great number pass from one side to the other, the distance being about three and a-half miles, and occupies about a quarter of an hour. The water in the bay has a very dirty appearance from the mud sent down from the diggers in the gold regions.

But we proceed on our journey. As we leave Oakland Pier and approach San Francisco, we get a good idea of its extent and surroundings. The full length of its frontage to the bay is a succession of wharfs and docks, and several vessels lying at anchor in the bay, the whole presenting a forest of masts between us and the city. Right ahead, and to the left, is the only apparently level

ground in the district, on the left corner of which stands Rincon Hill, sloping gradually down towards the wharfs. On it is erected the Sailors' Home. The situation is well chosen for such an institution, as it commands a very extensive view of the bay, wharfs, and shipping.

Looking to the right, and away in the distance, the whole district appears to be a succession of hills. In the foreground, the two more prominent of these (Russian and Telegraph Hills) rise very abruptly at about a mile back from the wharfs. The level part between these hills and the wharfs has been partly reclaimed from the bay by levelling down some of the smaller hills that once formed the foreground. A very extensive work of the same kind is at present being executed at the extreme end of the wharfs, and to the north of Telegraph Hill. Some of the principal warehouses and business premises occupy the site where a few years ago large ships were riding at anchor. As we draw near the wharf, the lines of the streets, with fine mansion-houses on each side, can be easily traced over the crown of the hills, giving a very picturesque appearance to the city.

Having landed, we took up our quarters at the Occidental Hotel, where we got a very refreshing bath and a good dinner, then go in search of an old shopmate who had been over twenty years resident here. Having found him, it was some time before he recognised me, but, on learning that I was his old shopmate, he gave me a very hearty reception, and before parting

he arranged to spend the following day with me in visiting places of interest.

It may not be out of place here to relate a little incident which took place that evening, as it shows how closely visitors are watched and traced out when travelling in the States.

On returning to our hotel, the hall porter handed me a card, saying that the lady named on it called a few minutes after I had gone out, and seemed much disappointed that she had not seen me before I left. Looking at the name, I said "It is a mistake; it can't be for me; I never knew any person of that name, so you must have misunderstood the lady." He replied, "I beg your pardon, sir, there is neither mistake nor misunderstanding about it, as the lady came in, asked for you, and examined the visitors' book, and satisfied herself that you were the gentleman she wanted to see, and that you would find her at the address on the card." Having heard much about the 'cuteness of Yankees for entrapping strangers, I concluded that this was one of their methods of setting a trap, and resolved to pay no attention to it. Next day, after our excursion, and while at dinner, I showed the card to my old shopmate, and stated the circumstance to him. He suggested that after dinner we might take a walk in the direction of the address and see how the land lay. On doing so, and finding it a most respectable part of the city, I went to the address, and was there met by a Chinese servant, by

whom I was conducted up two stairs and introduced to a respectable looking lady, who said, "I presume you are Mr ——." Replying that I was, she then said, "Oh, beg pardon, it is a mistake!" then said to a little boy who was standing at her side, "Run away and tell your mother that it's not uncle." She then explained that she had a brother in Glasgow who was of the same name as myself, and under the impression that it was he coming on a visit, she had watched my progress from Omaha on to Salt Lake City, then on to the hotel here, and being anxious to save me the trouble of searching for her, she had left her address at the hotel. It seemed a great disappointment to her that it had not turned out as she expected, but it was arranged that when I got home I would call on her brother. I have done so, and found him the managing partner of an extensive establishment in Glasgow.

Leaving the hotel and getting into the street, we in Scotch fashion looked up to make our remarks on the weather, when we observed at from fifty to sixty feet overhead what appeared to be a large net thrown over the city, wires crossing each other in every conceivable direction. Our friend informed us that they were the wires of the telephone, which had become of late a great institution with them, and this being the great business part of the city, there was a wire led into nearly every house in the district.

We set out for the United States Mint, a new and

extensive erection, which is fitted with the most improved machinery of its kind, and is open to visitors two hours a day. We were first conducted into the chamber where the gold and silver ore is seen, in the state in which it had been received from the diggers. We were then taken from place to place, to see all the various stages of manufacture—from the melting of the crude ore until turned out current dollars. The silver, after being melted and refined, is cast in bars about nine inches long by one and a half broad, and about one inch thick. It is then passed through a succession of rolling machines, until it is brought to the proper breadth and thickness of a dollar. At this stage it has the appearance of a strip of hoop iron ; it is then handed over to a workman, who passes it through the finishing roller. It is then taken up by another workman, who stamps it into blank dollars. This stamping machine moves at a great speed. There is another man in close attendance, whose duty is to weigh one out of every twenty. When that number is completed, the machine stops for a few seconds, and if the weight is correct, the process is continued at the same rapid rate as before.

The blank dollars are then handed over to the finisher, who stamps them with the head and eagle. From thence they are conveyed to the testing-room, where a number of females seemed to be very comfortably engaged at a long table—some busy weighing and adjusting, others packing the dollars. Any that are too

light, or much too heavy, are sent back to be melted over again. In this hall there were five of these machines—three for silver and two for gold. The three for silver were the only ones in operation at the time of our visit. We were informed by the superintendent that these three machines produced three millions per month.

CHAPTER VI.

SAN FRANCISCO HOTELS—CHINA TOWN—CABLE TRAM-ROAD, A UNIQUE INVENTION—ITS APPLICABILITY TO GREENOCK—GOLDEN GATE PARK—OAKLAND—EPISODE OF THE CARTSDYKE FLOOD.

HAVING satisfied ourselves as to how the “almighty dollar” is fashioned, we pass out of this huge money-making factory and again mix among the men whose energy and intelligence have transformed, in so short a space of time, the grain-coloured sand hills of San Francisco into a great and noble city on the shores of the Pacific Ocean, the emporium of fleets that traverse its vast extent in all directions.

The next building to which our attention was directed was the City Hall, which will be a very fine structure when finished, but there is only one-half of it completed and occupied. The mason work of the remainder is pretty well advanced, and the large columns on the front are of cast-iron. On the portion that is finished it requires very close inspection to detect what is iron and what is stone. There is not much difficulty in piloting your way through the city, the streets being very regularly laid out—in most cases crossing each other at right angles, although they vary much in width, being from 60 to 120 feet, and some of them very inferior in their construction

The carriage-ways are in some cases macadamised, in others they are formed of cobble stones, which resemble round stones that have been picked up on the beach. The side-walks in some of the business parts are paved with stone, in others asphalte, but in most cases they are formed of three-inch planks. Some of the principal streets are lined on each side with very handsome and substantial business premises, private buildings, and hotels.

Of the hotels, the Palace is the most extensive and complete. It occupies a block about 350 feet square, and is built all round eight storeys above the level of the street, with a large court in the centre, covered in with a glass roof at the full height of the building. The fronts to Montgomerie Street and the court are all of white marble, producing a most brilliant effect when illuminated by the electric light. Notwithstanding the great extent of this building, it beyond doubt requires much more accommodation for the extensive business carried on in it. As a proof of this, there is an overhead covered-in passage across Montgomerie Street, connecting the hotel with a large building on the opposite side of the street. Even that is not sufficient to meet its requirements, for there is another overhead passage across a side street, from the second to a third building. The last two buildings are used for sleeping accommodation only. All the business is carried on in the Palace Hotel. With the three buildings they have accommodation for

over eighteen hundred persons. Strangers visiting the city, though not resident in the hotel, are allowed the use of the hoist to get to the roof to have a view of the city.

China Town was fixed on as our next field of research, and towards it we directed our steps, and found it the most dilapidated, and, we might say, the most degraded part of the city. It is inhabited by Chinese alone, there being in this district from twenty-five to thirty thousand. During the week some of them are employed as household servants, shoemakers, tailors, and in various other employments. They are a great eyesore to the working men on account of their working for very small wages, said to be from two to three dollars per week. Sunday is a day of recreation with them. On that day we observed that the barbers' shops were extremely busy. They all get shaved round the neck and face, and about half-way up to the crown of the head. The dressing they get that day costs them about one-fourth of their week's earnings! They are remarkably clean-looking in their persons, but most filthy in their overcrowded habitations. They are great in all sorts of dried meats. Ducks are dried and spread out like ling fish; pigs are hanging roasting in bulk, and sold in small quantities, as a matter of economy in the saving of fuel.

Of the many Yankee inventions that we observed by the way, there is one to which the city of San Francisco lays claim, and of which her citizens have just cause to

be proud. It only requires to be known to be adopted by all cities that are built on rising ground. It is the cable tramroad, the invention of Mr Halliday, a wire-rope manufacturer, and by birth a Scotchman. For easy, safe and comfortable travelling, it is, in many respects, a decided improvement on the ordinary horse cars, and can be used with perfect safety where horse cars are quite impracticable. In this city many of the streets pass right over the tops of the hills, ascending on the one side and descending on the other.

The cross streets along the hill sides are partly dug into the hill on the high side, and partly made up by the *debris* on the low side. Where these streets intersect each other, the ascending street, to the extent of the breadth of the cross street, passes on the level, then ascends the next section on the incline, till it comes to the next cross street, where it again crosses on the level. On these level crossings the cars usually stop to set down or take up passengers. Though the level crossings are used for this purpose, there is no difficulty in stopping on the incline. We observed a car stop with the greatest of ease when descending an incline of one in eight, and then silently resume its course down hill with an easy, sliding motion.

The cable tramroads are similar to the ordinary horse car rails, with this exception, that there is a tunnel, or tube, extending the whole length in the centre between each set of rails. This tube is about three feet deep and

two feet wide, and is formed with strong cast-iron frames, set about five feet apart, and to which a casing of sheet iron is fixed to form the tube. The outside of this iron casing is filled in to the surface of the street with concrete. To these frames are fixed rollers, over which the cable works. At the surface of the street and in the centre between the rails, running the whole length of the rails, are two iron plates about four inches broad, screwed down to the top of the cast-iron frames, with one inch between them, forming a longitudinal slit the whole length of the railroad. The driver stands inside of a small car, called the dummy, which goes before the passenger car. From this dummy an iron arm passes down through the slit into the tube, where the connection is made with the cable. When the driver wants to stop the car, he pulls a lever which disconnects the car from the cable (which continues in motion), and at the same time presses down a brake from under each side of the car on each of the rails. When the lever is pulled in the opposite direction, the brakes are raised, the cable connected, and the car again set in motion.

The driving power is got from a stationary steam-engine—the one we examined is 50 horse-power—placed in a large building on the line of the street on the top of the Russian Hill. The wire cable, which is about one inch in diameter, is led into this building and passed round a large wheel that is always in motion, and stands on shears like the slide-rest of a turning lathe, and is free

to move backward or forward so as to accommodate itself to any expansion or contraction of the cable that may result from a change of temperature. It is this wheel that gives motion to the cable, and which has never been known to break. When any of the wires give way, they are seen when passing through the engine-room, and the defective part of the cable is stopped there during the night when the cars have ceased running, and the faulty wires are replaced previous to the cars beginning to run next day. Looking from Russian Hill, the situation and its surroundings very forcibly reminded us of the view from the top of the Whinhill, behind Greenock. If we substitute the Cloch for the Golden Gate and Helensburgh for Oakland, but only about four miles water space between, then there is beneath us about the same extent of level ground hemmed in by the hills behind and the deep waters in front, with a large fleet of vessels riding safely at anchor in its well-sheltered bay, and with Lone Mountain Cemetery beautifully situated between us and the Golden Gate. But here the similarity ends. Before us is a city, the growth of less than half-a-century, occupying all the level ground and extending over the hills, with streets double the width of ours, and about six times the number of inhabitants; with trade and commerce in even a greater proportion, and still extending at railway speed.

Returning to the city, we took a walk down Market Street towards the wharves, where preparations were being

made for the erection of an extensive building. At first sight there appeared to be an unnecessary quantity of timber used in the foundation. The whole area was dug out to a depth of nine feet below the level of the street and six feet beyond the building line, so as to give a sunk flat. This area was closely laid with a floor of pine, six inches thick. On the top of this floor there is another of the same thickness laid across the first, making a floor of twelve inches over the whole area, and extending five feet outside of the walls. On inquiring if it was really necessary to use so much timber in the bottom, we were informed that it was, and that all the buildings in that neighbourhood, having sunk flats, were done in the same manner. The flooring forms the foundation of the walls, which are built near the level of the street with cement, and made thoroughly watertight, the floor being caulked under the walls before the building is begun, and, should there be any appearance of water, the rest of the area can be caulked at any time, the advantages of the timber being a regular foundation and a dry sunk flat.

The day being now far gone, and our rambles having been very extensive and interesting, we felt an inclination to seek the privacy of our hotel, which having obtained we began to reflect on what we had observed during the day. What most prominently presented itself to our mind's eye was the striking resemblance that the general outline of the district bore to our native place, and the ingenious appliance here resorted to for overcoming the

natural disadvantages that are common to both. The fact that this appliance is as applicable to the one place as the other brings it within the range of possibility that Greenock may, at no very distant date, be extending southward over the hills, harbours and building yards stretching along its shores, and stores, public works and workmen's houses occupying the level ground that is at present taken up by the mansions of our merchants, who may find it more respectable and advantageous to take up their residence in the hill district, and to be taken up and let down by the cable tramroad, worked by engines stationed on the tops of Corlic and the Whinhill.

Next day we resolved to have a comparative trial of the cable cars, as against the horse cars. A very short trial enabled us to decide which was the most preferable to travel by. Though our course by the cable car was very much up hill and down brae, where horses could not possibly be of any service, yet the stopping and starting were done silently and almost imperceptibly (the rate of speed never varying), and the sensation created by the motion was more like a slide on a sheet of very keen ice, than a ride along a street on a tramway car.

We again embark on this pleasant-going cable tramroad. Never can there be a smoother mode of transit than this noiseless, easy-gliding motion. It seemed as if you were seated before a moving panorama of streets, with peoples of many nationalities passing before you. We

reach the Golden Gate Park, which is about three miles distant from the city. Part of the route is through the city cemeteries, which are very extensive, well kept, and situated in the immediate vicinity of the park. The one belonging to the Roman Catholics is the most conspicuous on account of an isolated mound (Lone Mountain), which occupies a very prominent position in the midst of the ground, and is surmounted by a large cross, which serves as a landmark to point out at a distance the locality of the dead.

On leaving the car, we took a stroll through the Golden Gate Park, which is worthy of notice, though it is in some respects much inferior to many of the public parks we have visited—yet there is none that so well illustrates the indefatigable perseverance of the Americans in overcoming natural disadvantages. This park is one of the chief resorts of the city pleasure-seekers. It is about 1,200 acres in extent, and occupies a very exposed and elevated position. Part of the ground is closely planted with trees, amongst which, in some secluded spots, large conservatories have been erected, and are apparently doing well. Other parts are laid down in green lawn and ornamented with neat flower plots. A considerable part of the ground is still in its natural state, and is gradually being brought into a fair state of cultivation. The whole is very extensively laid out with serpentine walks and well-formed carriage drives, which seem to be much taken advantage of

and immensely enjoyed by the citizens, judging from the easy, aristocratic manner in which we saw them driving along.

Towards the western extremity of the ground there rises a large hill or mound, round which the carriage-drive is formed, and from the summit of which there is a very extensive view towards the Golden Gate and right on to the Pacific Ocean. It is only eight years since the first attempt was made to bring this ground into cultivation. Previous to that it was a waste of sand, such as is still to be seen in the surrounding district, where the whole surface of hill and dale is as smooth and even as newly-fallen snow; and, when viewed from the mound, it resembled very much in appearance a large extent of ripe grain, which on closer examination turns out to be an immense surface of yellowish sand, not unlike a sandy sea-beach, where there is a succession of little ridges or waves with a few inches between each.

There is not a tuft of grass visible on the whole surface. It is like working against nature to bring such land into cultivation, and it is scarcely credible that it can be done, when one takes into account the barren ground to begin with. No rain during the summer half of the year, the moisture being supplied by irrigation and exposure to the westerly winds which invariably set in from the Pacific every afternoon. However, these disadvantages may be compensated to a certain extent by there being very little difference of temperature

between summer and winter, it seldom being so cold as to freeze, with a very moderate quantity of rainfall in the winter.

Having had a very satisfactory stroll through this desert park, we resolved to see some of the more fertile city resorts, and made our way back to the pier, where we took the ferry-boat to Oakland, which may be said to be one of the city suburbs. The time occupied in crossing the bay was about fifteen minutes, the distance being three and a-half miles to the end of the pier, which is of itself over two and three-fourth miles long and over one hundred feet in breadth. All the railway engines that ply on this pier are fitted with force pumps, so that if at any time, by accident, fire should break out on the pier, each engine can, at a moment's notice, proceed to the scene of danger, and act the part of a fire brigade in extinguishing the fire. It is about seven years since the pier was constructed, and the company, fearing that when the timber should begin to decay the expense of the up-keep and the inconvenience to the traffic would be great, have already set to work to provide against such a contingency by filling up with stones and clay alongside the pier and amongst the piles. This is intended to be carried out about two miles into the bay, and is expected to be pretty well consolidated before the timber gives way.

Oakland is the permanent residence of many of the gentry and merchants of San Francisco, who daily pass to and fro. The present population is said to be about

sixty thousand, and an average of eleven thousand persons cross every day. The ferry-boats leave every half-hour, and in order to give greater facilities to the increasing traffic, it is at present in contemplation to have them plying at shorter intervals.

It is difficult to realise the possibility of such a short distance intervening between so stirring a commercial city, built on a bleak, mountainous sandy waste, and one that is so completely rural and occupying such an attractive and fertile plain, enlivened with such luxuriance of fruit, flowers, and shade trees, the oak holding a very conspicuous place amongst them.

The streets are very wide, and all the buildings have a neat, clean, and substantial appearance, each having a large piece of ground; even retail shops, warehouses, and stores occupy detached buildings. The city extends over a radius of nearly five miles, and enjoys the privilege of a free State College, where both sexes prosecute their studies in the higher branches of education. No intoxicating liquors are allowed to be retailed within two miles of this institution.

As regards railway travelling, the citizens here enjoy a very exceptional privilege. There are seven or eight local stations within the city boundaries, and all passengers entering and leaving at any of these stations travel free if they don't go beyond the city limits. This is a privilege that we could not at all comprehend, until an old acquaintance, who is resident there, informed us that

when the railway was being promoted, the city of Oakland occupied the position most favourable to its approach to San Francisco. The Local Authority of that date made a bold stand, and would not consent to the line passing through the city unless the company agreed to the terms that they proposed, which resulted in securing free trains to all parties who did not travel beyond the city boundaries.

In the course of our wanderings we came to the store of a Greenockian settled in Oakland. He was, unfortunately, from home, but his wife, a Scotch woman, welcomed us in the kindest manner possible. Coming as we did from the old country, was warrant sufficient for a hearty welcome. Our countrymen abroad are intensely Scottish in their feelings, and everywhere in our travels we found their kindly words and hospitality towards us unbounded. Neither time, trouble, nor expense was spared on their part to entertain and make us feel at home among them. Our friend's wife was overjoyed at our visit, and in the course of our conversation related an incident in her life so singular that it is worth reproducing, more especially as the leading episode took place in Cartsdyke.

"I remember," she remarked, "when but a little girl, I one day got hold of a paper containing the narrative of the Cartsdyke flood. I read it with absorbing interest, and one most touching incident became indelibly fixed in my mind. It was the story of a child in its cradle

being carried by the flood out of its parents' house and found floating in the river, like a second Moses, asleep and unharmed. My father found me in tears over it, and scolded my mother for allowing me to read matters of so exciting a nature. We emigrated to America, and, after many vicissitudes, in course of time I got married to my husband. About two years after our marriage, when my husband and I were one evening entertaining each other by relating some events of former times, I told him how deeply I had been impressed by the reading of the story of the child in its cradle voyage in the Carts-dyke flood, and, to my utter astonishment, my husband told me that he was the Moses of the episode that I had wept over in my childhood !”

Such was the story related by our friend's wife, far away from the scene of its occurrence, and once more demonstrated that “truth is stranger than fiction.” I felt interested in it, from the simple and correct manner in which she told it, and from the fact that I was aware of the particulars at the time it occurred, and also having heard it repeated a few years ago by the father of the child, whose mother was drowned in the house out of which the cradle, with its precious cargo, had been swept by the flood. The time allotted for our trip to the Far West had now been exceeded, and we were reluctantly compelled to forego visiting many places of interest that were on our programme, and we now turn our attention to the home journey. Some will, no doubt, be curious

to learn something about car life crossing the desert, and the expense attending it. To such we willingly give a sketch of it, and of railway travelling generally.

CHAPTER VII.

SAN FRANCISCO TO OMAHA—CAR LIFE—ITS COMFORTS AND FACILITIES—REQUISITES FOR THE OVERLAND ROUTE—THE DUKE OF SUTHERLAND'S OPINION OF AMERICAN RAILROADS—RAILROAD TICKET SYSTEM—CHICAGO.

THE distance from San Francisco to Omaha is 1920 miles; time occupied, four-and-a-half days. The ordinary fare is £20, with £2 16s extra if you take the palace car and sleeping accommodation. Anyone who undertakes this journey will find the latter sum very profitably spent. The ordinary cars are the property of the Railway Company, but the palace cars belong to Mr Pullman, who gets permission from the Company to place them on the line with two attendants on each car, and the £2 16s is the remuneration he gets for giving the Railway Company the use of the cars and attendants.

Each car is about seventy feet in length, and has accommodation for twenty-five passengers. There is a platform at each end of the car, with a stair on the side of each platform. On entering from one end you pass between the gentlemen's smoking-room and lavatory. In the lavatory you find all toilet requisites, including towels, soap, brushes and combs; also a drinking fount with an abundant supply of iced water. Attached to the lavatory

is a W.C., &c. Passing into the car, there are ten seats on each side and a passage up the centre; toward the end is a private state-room for the accommodation of a family or private party. Beyond this state-room, and at the extreme end, there is the ladies' lavatory. Each car is provided with a stove, which is indispensable in the winter season.

The ordinary car tickets and the palace car tickets are purchased at separate offices. If two are travelling together and starting from the extreme end, it is well to purchase them the day previous, so as to secure a section—that is, that you get the seats looking face to face during the day, which can be transformed into an upper and lower berth during the night. Having secured this, the attendant will fit up or remove, just as you may desire, a neat little table between the seats, at which you can either read, write, play cards, or dine. This section is exclusively your own to the end of the journey, and is sufficiently large to accommodate other two seated at the table, should you meet with agreeable companions, and desire to have a chat or a game with them by the way. If you wish, you can break the journey at any station by applying to the guard, who will supply you with a lay-over ticket for any length of time you may desire. You can always get a train at the same time and place any day, but you forfeit your claim to your section of the car, and have to take any berth that may be vacant at the time you resume your journey.

The attendant, who is generally a darkey, is ever ready to assist and take charge of any little thing you may have, and prepare your bed whenever you desire it. This he does very neatly and expeditiously by removing the table and placing two bearers between the seats, pulling the seats on to the bearers, then the backs slide down into the place of the seats, and form the bottom of the lower berth. He then pulls down a part of the ceiling which is hinged and forms the bottom of the top berth, on top of which is stored the cross divisions, bed, bed clothes, and curtains. These are put into their places and the curtains hung up—all is ready for you to retire; as for myself, I never before enjoyed more refreshing sleep.

It is not necessary to take a supply of food with you, as there are stations where the trains stop for breakfast, dinner, and supper, about half-an-hour being allowed for each meal, which consists of from six to eight courses. The first course at breakfast is generally fruit or oatmeal porridge. It is very seldom you require to ask for anything, the courses being set before you more rapidly than you are able to discuss them—sometimes three or four on the table before you at one time, and an abundant supply in every one, the cost varying from half to one dollar each meal. Anyone not inclined for three full meals a day can get supplied at the lunch counter, where there are all kinds of fruit, bread, butter, eggs, tea, coffee, milk, and spirits. You just help yourself to

what you want, and pay for what you use. These dining rooms are said to be the property of the railway company. The experience here given is in the month of July. In the course of our journey we had several changes of temperature, from excessive heat to moderate cold, so it is well to be provided with clothing suited to both summer and winter—but by all means have as little baggage as possible, and should you have any, get it checked to your destination, and it will likely be there before you, thus saving much trouble and anxiety.

From San Francisco to Omaha is by far the most pleasant part of the journey, and it is rendered all the more so on account of the average rate of speed not exceeding eighteen miles an hour, giving to the traveller a fine opportunity of viewing the varied and ever-changing scenery through which he is passing, in some parts very minutely. There are parts where the line is very circuitous in its course, but there are also hundreds of miles in succession where the train moves almost as straight as an arrow.

Owing to the slow motion and straight course of the train, you do not experience the jerking and jolting that so frequently accompany railway travelling. Another point on which the traveller's mind may be at perfect ease—there is little or no risk from collisions, even though the line for the greater part of the way is a single one. There are stations where the line is double, and at these stations the trains going in opposite direc-

tions meet and pass each other. The one is never allowed to proceed until the other has arrived.

During the summer months a passenger train leaves Omaha and one leaves San Francisco every day, so that there are always eight direct passenger trains between the two places, four travelling in each direction, with just a day between each. If you break the journey at any station, you can rely on resuming it any day at the same place and hour as you left it.

On arriving at Omaha, which is the terminus of the Pacific Railroad, we have to change and take the Rock Island Railroad to Chicago. On this line we have all the comforts that we enjoyed on the Pacific. We are passing through a district that is all under cultivation and fairly inhabited, and instead of having to dine at stations by the way, there is attached to the train a dining-car, where you get first-class attendance, and meals at 75 cents each. Any one who did not feel himself at home during the whole journey, must have had himself to blame. He had perfect liberty to walk from one end of the train to the other; to stand on the platform and gaze on the surrounding scenery; or be seated in his own section, and have greater attention paid him than he could possibly enjoy in his own private residence. The railway company keeps a servant on the train, who, to supply the wants of the passengers, is kept all day long travelling from one end of the train to the other. In short, he is a moving market. One time he comes along

with a large basket of fruit, another a great variety of confections; next, cigars, then pastry, and occasionally with an armful of literature, which he distributes freely amongst the passengers, taking it up on his return if they are not inclined to purchase. He can supply you with almost anything, from the latest quarterly to the daily broadsheet, with its varied contents and latest stirring events. It created no small surprise amongst the passengers when he supplied them with the San Francisco newspapers which contained their names, and stated that they were on their way as visitors to the city, while at that time they were 800 miles distant from it!

The train from Chicago eastwards, had all the conveniences that we enjoyed on the Pacific Railroad, but our pleasure was very much marred owing to the increased rate of speed at which it travels on this section of the line. The speed is nearly double, and reminds one of a trip to London on the Flying Scotchman. Everything around, apart from the train itself, is almost a blank. Still, there is much less risk from accident at the stations there than there is on the home railways. There are no station platforms, and the passengers enter and leave the cars with greater ease and freedom than we do. Should one accidentally fall, there is no risk of being crushed between the platform and the foot-board; besides, the lowest step of the stair to the car platform is so far above the ground that it will pass over the most corpulent person without inflicting injury.

American railroads generally cross streets and public roads on the level. It is quite exceptional to find railroads crossing streets on bridges, and no uncommon thing for a train passing through a city to run along the centre of the street the same as our tramway cars do. Every railroad engine has a large bell suspended over the boiler, and when nearing a crossing or station, or running along a street, it is the duty of the stoker to keep pulling away at the bell until the engine is either stopped or has passed the station. In addition to the bell, each engine is also fitted with the shrieking, brain-splitting steam whistle that is so much used on British railways. But the Americans prefer to use the bell, which they say is much more effective in warning people against danger, without startling and confusing them, and is preferable on account of its soft musical sound being less liable to annoy sick persons, or to startle young, spirited horses. For some time at first the ringing of these bells impressed us with the idea that we were at home on a Sabbath morning and in the neighbourhood of a Scottish village church, where the bell was reminding the villagers of their sacred duties.

Last summer the Duke of Sutherland and a party (said to be railway directors) travelled over a considerable portion of the American continent, with a view to ascertain what of the American railway system could be profitably introduced into this country. It must have surprised many to find on their return a paragraph going

the round of the press that after having travelled over 20,000 miles they had not seen anything that could be introduced with advantage on our railways. That may be perfectly correct from a shareholder's point of view, but if, instead of interested shareholders and directors, a party of tradesmen or merchants, whose occupation requires frequent railway travelling, had set out with a view to gain information and report *their* experience to the public, they certainly would have returned with a very different report from that of the Duke and his party. At the same time, it must be admitted that on saloon and Pullman carriages there is not much room for improvement. Those in use here are nearly equal to those in the States. Had his Grace and party been under the necessity of travelling in this country as second or third class passengers, their report would probably have been very different from what it was.

Apart altogether from the safety and convenience experienced on American cars, their system of dealing with tickets is very different from ours. In this country, tickets are generally sold at the stations and are only available for the day of issue, or you forfeit your right to use them, and should you neglect or not have time to procure your ticket before entering the train—suppose you enter at Langbank and leave at Port-Glasgow—you have to pay the full fare the same as if you had travelled from Glasgow. It is seldom that tickets are purchased at American stations. There are agents in all the cities

who make it their business to sell tickets for the railway companies, and they can supply you with tickets for the various competing lines to the same place. You need not ask these agents which line is the most preferable to travel by. They make it a rule not to give any information as regards the advantages of one railway over another. Their only aim is to sell the tickets and get the commission. When you purchase a ticket it is good till used, and should you change your mind and go by a different route, you can dispose of your ticket. There are plenty of agents who buy and sell such tickets (at a reduced rate, of course). After leaving one station, and before arriving at the next, the guard passes from one end of the train to the other, looking every person in the face as he goes along. It was astonishing how, amongst such a number, he never failed to pick out new comers, who, on producing their tickets, get them punched, and any who were not furnished with a ticket, the guard supplied them with one, along with a small slip. The passenger had to pay ten cents more to the guard than if he had purchased his ticket from an agent; but, if within ten days he produced his slip at any of the company's offices, he would get the ten cents refunded. The slip and the ten cents are merely a check on the guard for having received the fare.

Having heard so much of Chicago and its many attractions, we resolved to break the journey there and spend a short time in its vicinity. After taking up our

abode at the hotel, we called on an extensive merchant, to whom we had a letter of introduction, and to him we were much indebted for making a good use of the short time at our disposal, he sparing neither time nor trouble in showing us over and around the city during the day, leaving us the mornings and evenings to survey the parts in the district near to our hotel. The city is situated near to the southern extremity of Lake Michigan, and is bounded on the east side by the shores of the lake. The Chicago river runs from the lake westward for nearly a mile into the city, where it very abruptly divides into two branches at nearly right angles to the main river, one branch extending north and the other south, dividing the city into three sections. After these branches have extended several miles in each direction, they curve to the west and embrace the central portion of the city. The three sections of the city are connected by thirty-three bridges and two tunnels under the river. Most of the bridges are set on pivots in the centre of the river, and when swung round and standing in the direction of the river, a vessel can pass on each side of the bridge. The time occupied in opening and shutting the bridge does not exceed five minutes, and even that short period at certain times of the day in the business part of the city interferes so much with the ordinary traffic, that it takes nearly half an hour before order is again restored.

The tunnels under the river are situated in the busy

part of the city, and are generally used at times of interruption on the bridges. The tunnel begins to descend about a quarter of a mile from each side of the river, and when near the side of the river extends in breadth and is then divided by two central abutments extending across the river and forming the supports of three semi-circular archways, one for foot passengers and the other two for horses and carriages going in opposite directions. All the telephone and telegraph wires from each side of the river are brought to these tunnels and carried under the river so as not to interfere with the masts of the shipping. We passed through the tunnel in one of the carriageways, and found the causeway, which is of wood, in a most deplorable condition, it being the only thing that we could find fault with in the whole place, and perhaps is the only remnant of the old city that escaped destruction by the great fire. The river and its branches are of immense value to the city, giving over thirty miles of navigable water frontage, capable of being converted into wharves or slips, fully two-thirds of which have already been utilised, thereby enabling vessels to load or discharge their cargoes throughout the centre of the city, while comparatively little accommodation is provided along the lake frontage. According to our view, Chicago, in respect of its business, pleasure resorts and gambling, also for its wide and airy streets, and fine, massive ornamental buildings, far surpasses any of the other cities we had visited. This is perhaps due in a great measure to

the destructive fires that ravished the city, the effects of which there is not a vestige to be seen.

The Post Office, which is on a grand scale, is just being completed. It stands on a block of ground one-eighth of a mile square, and is built several storeys high all round fronting the streets, while the court in the centre is covered with a glass roof, and is open all through, presenting a forest of iron columns. The office during night is illuminated by the electric light. The hall in the east front is set apart for merchants' boxes, of which there are thousands, all like pigeon holes, open next to the office, and a small glass door with lock and key next the hall. Each box has a number on it, so that the merchant who knows his number looks into the box and sees if there is anything for him without opening the door. This is an arrangement that is in all post offices. We observed in small villages farmers come into the office, go to their box, unlock it, and take out their letters without troubling anyone in the office.

The County and Corporation Buildings occupy an entire block of the same extent as the Post Office. One half of this building is completed, and is now used for holding the various courts, the other half being nearly ready for the roof.

Very few of the streets are causewayed with stone, most of them being formed of round timber, from six to nine inches diameter, cut into nine inch lengths and set on end, the interspaces being filled in to the flush with

gravel and asphalte, while the footpaths are formed of stone. The stones are seven and a-half feet broad by fifteen feet long, the length of the stone being the full breadth of the footpath, and from seven to ten inches thick, the thickness being sufficient to form the crib for the gutter course. The causewaying of the street and gutter courses was in some instances very unsatisfactory; but we were informed that the City Commissioners had just lately settled a contract for the renewal of thirty miles of streets, all to be completed within eighteen months.

CHAPTER VIII.

THE PARKS AND BOUVELARDS OF CHICAGO—THEIR BEAUTY AND GREAT EXTENT—THE UNION STOCK-YARDS—THE BARTHOLOMEW OF PIGS—A FOURTEEN MILES LONG STREET—WATER WORKS ON A GIGANTIC SCALE—A BIG THING IN SAFES.

ON the following day our friend had arranged to drive us to the stock-yards, and to visit several of the public parks by the way. Besides the parks within the city boundary, there are seven on the outskirts, ranging in extent from two to five hundred acres each, and situated from two to four miles distant from each other, all being connected by well-kept boulevards, extending from the one park to the other, and forming over thirty miles of a continuous carriage drive, exclusive of what is within the parks. We were informed that it was in 1869 that the State authorised the formation of this chain of parks, the ground previous to that time being a barren prairie. That such a transformation could be accomplished in so short a space of time is almost incredible. The work is more like the growth of a century. The boulevards, varying from two to three hundred feet in breadth, are beautifully laid out on each side of the carriage drive, with an endless variety of design in

flower plots and shrub beds. In the parks there is an enormous extent of well-dressed lawn, very artistically laid out with carriage drives, serpentine walks, and artificial lakes connected by little streamlets, crossed here and there by rustic bridges. We observed in passing a corner of one of the lakes, under the shelter of a plantation, a wharf and a fleet of boats, with an attendant, kept there for the use of the visitors. There are also conservatories, zoological gardens, restaurants, hotels, and stabling. In short, there is no expense spared to make the boulevards and parks of Chicago a resort where the citizens can enjoy themselves to their hearts' desire.

Paris, with its boulevards, and Versailles, with its artificial lakes, are far behind Chicago. However, there is one advantage that Paris possesses—it is placed, as it were, in a large natural basin, and there are many points where you can get into a position on the elevated rim of that basin, and take in the whole extent of the city at a glance; whereas, Chicago being situated on an extensive prairie, cannot be viewed to advantage except from towers or high buildings within the city.

Leaving the parks, we shape our course for the Union Stock Yards, which are about seven miles distant from the centre of the city, from which there is a conveyance every few minutes by either car or rail. The yards occupy 345 acres of land, all laid out into pens very much in the same manner that a city is laid out with

streets, crossing each other at right angles. There is accommodation for over 130,000 head of live stock at one time. Direct communication is had with all parts of the country, eighteen different railways carrying their cargoes direct into the yards. The slaughtering and packing-houses are very extensive buildings, several storeys in height, and placed alongside of the pens, with which they have a connection by an incline gangway leading from the pens to the top flat where the killing is done. We visited one of the most extensive (Mr Armour's work), who has 40 acres of the pens set apart for his own use.

When killing operations are going on, there is a party to keep the incline gangway always full of hogs, which are driven into a pen in the upper flat, at the place of execution. This pen holds from ninety to a hundred hogs, and when closely packed the door is dropped down, and four strong young men step in amongst them, each seizing one by the hind leg, to which he fixes a chain, the other end being attached overhead to a pulley, to which a man attends and sets it in motion. The hog is suddenly jerked up, being suspended by one of the hind legs and the head hanging down; the chain is then transferred to an overhead iron rail or gallows set on an incline, so that, with a slight push by the hand, it slides forward to the executioner, who stands with knife in hand on a little platform in the corner of a long trough, and with a quick motion of the hand he quietly performs his

diabolical work, disposing of five of his victims every minute until the pen is emptied, when it is again speedily filled, and the process repeated. He could easily despatch three times the number, could they only be suspended and forwarded to him. In the intervals, he eyed us with a smile on his countenance, inviting us to try our hand, but we gratefully declined the kind offer. It was difficult to make out what was being said, the noise being such as you might imagine to be in the neighbourhood of a thousand pairs of bagpipes in full blast!

As the carcases passed from the hands of the executioner, the blood flowed into the trough under, from which it is drawn off in the flat beneath. On reaching the end of the trough, the carcases are dropped into a long cistern full of boiling water, the width of the cistern being the length of a hog. At the extreme end there is a curved iron grating, the full width of the cistern, that is continually dipping down and lifting out the water, and when a carcase is put in at the one end, the grating lifts one out at the other and throws it on a table, where it is passed through a machine which scrapes off the hair. The carcase is again suspended to a rail by both the hind legs, and is passed on where a number of men are kept opening and disembowelling, who in turn pass it on to other men, who divide it in two, when a man seizes each half and carries it to a bench, where another stands with a heavy cleaver in his hand, and with two strokes he severs the fore ham and hind ham from the side.

Other three men are kept constantly carrying off, one the fore and another the hind ham, and the third the side, each to separate sets of men who are kept dressing their respective parts.

We were then taken to where the sausages were being made, and to the curing and packing. Considering the nature of the work, it was surprising to find in all the departments everything so scrupulously clean. This may be accounted for owing to there being a plentiful supply of hot water for washing, and steam power keeping fans in motion, sending a current of fresh air through ice into every part of the works. Our visit was in the month of July, when least business was being done. The daily killing at the time of our visit was three thousand hogs and five hundred head of cattle, employing about thirteen hundred men in the work. In the cool season, Armour's daily killing averages eleven thousand five hundred hogs and seven hundred and fifty head of cattle, employing three thousand workmen in the different operations. Within the stock-yards there is a large hotel and stabling for several hundreds of horses, as well as a bank and an office of the Board of Trade.

Throughout the whole work, in every department, the strictest regard is paid to the division of labour—the extent of the operations rendering such comparatively easy. In the immediate neighbourhood of the yards there is a large town inhabited by the employees and their families. Returning to the city, the most direct

course is by Halsted Street, which passes the stock yards right through the city, and is fourteen miles long in one straight line. By the way, there was pointed out near the centre of the burned district the only house that had escaped the great conflagration. Seeing that it was constructed of wood, we inquired how it had not shared the fate of the others, and learned that the proprietor, when the fire was distant, seeing that danger was approaching, set to work and stripped the inside of the house of carpets, bed-clothes, table-cloths, &c., and spread them over the outside of the house, and kept them well saturated with water while the fire was raging in its vicinity.

Leaving the straight course, and passing through Lincoln Park, we reach the City Waterworks, which are the most gigantic and marvellous of the kind that have ever yet been undertaken. Lake Michigan being the fountain from which the water is taken, the supply is inexhaustible. In order to avoid the impurities of the Chicago river, the water is drawn from the lake fully two miles distant from the nearest land. There a building, one hundred feet in circumference, rises above the surface of the water, which at that point is about thirty-five feet in depth. That building is founded on the bottom of the lake, and is surmounted by a lighthouse and signal station for the accommodation of vessels navigating the lake. In this building there are fitted up apartments for the waterman and his family, the centre being reserved for the shafts that admit the water to supply the city.





SECTIONAL VIEW OF THE WATER SYSTEM OF CHICAGO, SHOWING THE CRIB IN LAKE MICHIGAN, THE OLD LAKE TUNNEL, THE NEW LAKE TUNNEL, THE TUNNEL UNDER THE CITY AND THE TUNNEL UNDER THE RIVER AT LA SALLE STREET.

Length of Old Tunnel from Crib to North-side Water Works, two miles, Ground broken March 17, 1864; Completed in autumn of 1866; Cost, \$600,000.00. Length of New Tunnel from Crib to New West-side Pumping Works, six miles, Work commenced July 12, 1872; Completed Oct. 12, 1874; Cost, \$1,600,000.00.

The first tunnel, begun in 1864 and completed in 1867, is about two and a-quarter miles long, and five feet inside diameter. The second tunnel was completed about six years ago, and is six miles long by seven feet in diameter. Both tunnels are water-tight, built of brick, and in each case fully two miles of the tunnel is carried out under the bottom of the lake at a depth of seventy feet from the surface of the water.

Each of the tunnels has an upright shaft rising in centre of the building on the lake, where the inlet of the water to the tunnel is regulated by the superintendent. The water being admitted there, flows through the tunnel to the pumping station, where it rises to the level of the surface of the lake in a large receiver near the pumps. The station we visited is on the short tunnel, and has four steam engines constantly at work, these having a combined power of three thousand horses, throwing at each stroke 2750 gallons of water into a large upright iron pipe or tower 175 feet in height ; from this tower the water gets its pressure for distribution over the city. Round the outside of this iron pipe is built a stone wall with a space all round, where a spiral stair ascends to the top of the tower which terminates with a balcony that is free to visitors, and from which there can be had a very good view of the lake and city.

This is not the only source from which water is got. Many manufactories, some of the parks, also the stock-yards, get their supply from Artesian Wells. Several

years ago a party who had been affected by the oil mania commenced to bore in the hope of finding oil. Though disappointed in their expectations, they were rewarded by the discovery that an abundant supply of water could be obtained at a depth of from seven to nine hundred feet, and there are now between forty and fifty of these wells throughout the city, some of them supplying large quantities of water.

We now take the train for Boston, distance about 960 miles, fare £4, and time 36 hours. Boston bears a great name as a fine city, with many attractions. However, we were not so favourably impressed with it as with some of the other cities we had the pleasure of visiting. No doubt it has attractions in the shape of extensive business premises, fine buildings, beautiful parks, and within the last ten years the business part of the city has had the advantage of the purifying influence of the flames. Still, the Local Authorities have not availed themselves of that opportunity of having it re-modelled. Fine buildings have been re-erected on the old lines. The streets are narrow and very irregular, with a great many triangular blocks—so much so that it is almost impossible for a stranger to pilot his way without the assistance of a guide. In the central part of the city, near to the Post Office, is a large fire-proof block, known as the Equitable Building, which is deserving of notice on account of its being used as the vaults and offices of the "Security Safe Deposit Company," who carry on a business that is scarcely

known in this country, while with the Americans it is almost indispensable on account of the combustible materials of which the greater number of their buildings are constructed. This building is thoroughly fire-proof. The roof and floors are altogether stone, brick, and iron, and the stairs are marble and iron, there being little or no wood used in the erection. As a building, it has altogether a very neat, substantial appearance. Notwithstanding that, the strong iron gratings of the external openings, embedded in the stone walls, with the heavy iron door and shutters, and the court-dressed officials that guard the entrance are more suggestive of a prison than of a place of business. On entering, you pass into a large, handsomely-finished hall, where attendants are in waiting to receive customers and assist them in getting access to their property, and to restore it to the safe, when they have their business done. The vaults containing the safes have all double doors, constructed of iron and secured with combination locks, which no one man can open. It requires two men acting together to effect an entrance, and that can be done only during business hours, which are from 9 A.M. to 4 P.M. These doors have in addition self-acting time-locks, which fasten on the doors being closed, and are governed by clock-work, and when closed at 4 P.M. it is impossible for any one to open them; even those who know the combination of the other locks cannot effect an entrance before nine o'clock next

morning. There is also direct electric telegraphic communication between these locks and the nearest police station, so that should there be any tampering with the locks, the alarm is at once given at the office, and the police are speedily at the point of attack. These premises are always under the supervision of armed watchmen, who are constantly traversing round the vaults. At short intervals, each watchman has to pass over his beat, at each extreme of which there is a recording electric clock, which communicates with the manager's residence. Should any of the watchmen neglect to be at the clock at the right time to record his visit, the alarm is sounded at the manager's house, and information conveyed to him on whose beat the neglect has occurred.

The business of this company is to receive for safe keeping, against either fire or burglars, all kinds of valuable property, such as wills, title deeds, bills, bonds, money, jewellery, &c. All classes patronise the company—private individuals, trustees, merchants, corporate bodies, and bankers—some of whom, we are informed, deposit their money and valuable documents with the company every evening and remove them back to their place of business every morning. Adjoining the vaults, there are comfortable rooms of various sizes, where any person who has documents deposited can have a room to examine them at his leisure. There are larger rooms, where trustees or corporate bodies can meet and

hold consultations and examine their documents without the necessity of removing them from the premises. There is also a spacious reading-room, where the merchant patrons can consult the daily commercial papers, and also have telegraphic communication with every important city in the States. Within the walls there is still a considerable quantity of unappropriated space where safes can be fitted up when required.

Depositors can be accommodated to the extent of their requirements. The safes in the vaults being divided into various-sized compartments, the smallest size being two and a-quarter inches high by four and three-quarter inches wide by twenty-one inches deep, for which the rent is £2 per annum; while one at twenty-one inches high by fourteen inches wide by twenty-one inches deep, is £20 per annum. There are several sizes between these two. That rent entitles the depositor to the use of a room and assistance of a servant at any time he requires to examine his property. At the above rate, a safe nine feet wide by eight feet high, divided into the smallest size, will yield an annual rent of over £1,100 sterling. Some of the safes are divided into larger compartments, so as to hold tin cases or trunks, silver-plate, paintings, &c., and when deposited in such packages are charged one per cent. on the owner's estimate of the value. If an extra bulk compared to the value, then special rates have to be arranged for.

CHAPTER IX.

COTTON MANUFACTURE IN AMERICA—FROM A MANUFACTURER'S VIEW—FROM AN OPERATIVE'S VIEW—COLORADO BEETLE—SEA BATHING AND ITS ATTRACTIONS—SURF BATHING, ETC.—A LAND LEAGUE MEETING—NEW YORK—ELEVATED RAILWAYS—NEW YORK WHARVES—BIG FERRY BOATS—THE GREAT BRIDGE—ROCHESTER.

HAVING exhausted the time allotted for our stay in Boston, we proceed by rail to Fall River, which is 48 miles south, and is the point where passengers ship on board the steamer for New York. Viewing the city from either the boat or rail, it has a dull, monotonous appearance, the houses being all detached, with a considerable extent of ground to each, which is used either for ornamental gardens or for orchards, but principally for orchards, on which there was an abundant crop of various kinds of fruit. Many of the footpaths were strewn with cherries, which were over-ripe and had fallen from the trees. It is the custom there to employ boys to climb the trees and pull the cherries. The boys get as the reward for their labour the half of all they pull, and the owner of the orchard claims the other half as his share.

Entering the city, we soon discover that it is not the dull place we had anticipated. There is activity and bustle at every turn. It is only the wide streets and the great extent of ground on which the city stands that give it the quiet appearance. It is one of the great centres of American cotton manufacture. There is no other work carried on within the city unless what is requisite to supply the immediate wants of the inhabitants. This place has been judiciously selected for such an industry on account of a succession of natural ponds, about two miles distant, and covering an area of about 3500 acres on the high land. The water-shed to these ponds is but trifling; the supply is chiefly derived from springs that furnish sufficient water to give a constant supply to a very rapid stream from which the city takes its name, and which furnishes a constant flow of 7300 cubic feet per minute, or about three times the quantity of the Greenock Shaws water supply for driving purposes. The increase of the cotton manufacture in this locality has fairly outgrown the water-power of the district. Some of the mills lately erected have had to adopt steam power, the falls on the stream being all taken up. In 1870 the population was 27,000, with thirteen mills in operation. It is now about 55,000, with forty-five mills running, and four at present in course of erection, all of which are owned by joint-stock companies.

In our travels here we made the acquaintance of a quiet old gentleman who had been long extensively

engaged in cotton manufacturing. In course, our conversation turned on the cotton trade. He claimed great credit for the Americans in respect of their enterprise in that trade, and their now being able to manufacture the best cotton goods that the world can produce, and at no more expense than in England, notwithstanding having to pay higher wages. On asking if they had much of an export trade, he replied they had practically none. Up to the present time they had not been able to produce as much as would supply their home market, but if they continued to increase their manufacturing power during the next ten years at the same rate as they had done in the past ten, they would not only supply their home market, but would have a large surplus to export, and he was confident they would outstrip England in the markets of the world when the time came that they had to come into competition. Continuing, he said England had long had it all her own way, and what was to hinder her? She had the advantage of having good machinery, with cheap coal and iron, at the time America was, as it were, in her infancy, and did not know that she had stores of the latter at her own door. Now that they had discovered the advantages they had, they were gradually turning them to account, and could now manufacture all kinds of machinery equal, if not superior, to what was produced in England. So in that respect the two countries were nearly on a par. But we have one advantage you will never enjoy in England. We get the

cotton brought by rail from the south and laid down at our works ; whereas to England it has to be shipped there, then the time and interest of your money, the freight to and fro, and the double insurance—all this gives us a profit on our manufacture. Being strangers to both the trade and our informant, we were not in a position to question any of his statements, which were very plainly made.

In the course of our rambles we got into conversation with an intelligent cotton operative from the old country, who had been twelve years resident in America, and got his opinion of the trade from a workman's point of view. He said there were perhaps some changes at home since he left, but in several instances, he thought, the Americans were much ahead of the old country. In his department each man had to attend to six looms, being double of what he did at home ; but, again, he said the webs were narrower, being only twenty-eight inches broad, and the yarn was a little coarser and not so closely driven home, but there were some of the factories that produced a finer cloth than the one in which he was employed.

The conversation we had with the old cotton manufacturer brought to our recollection that when on our way from Boston to Wells River, we passed through the city of Manchester, which is situated on the river Merri-mac, about sixty miles north of Boston. There, for over two miles along the side of the railway, is a succession of large cotton factories, built of brick, and all apparently

new. With such facts before us, we had not the least doubt that America was making rapid progress in the manufacture of cotton goods. For the satisfactory survey we had of this city, we were indebted to two friends who had placed much of their valuable time at our disposal, and who said they would not allow us to return to Scotland until we had seen one of the summer resorts or coast residences of the American gentry. Next morning, before breakfast was over, they were at our residence with a carriage. They preferred driving to travelling by rail, so as to give us a better idea of the district through which we were passing. The destination fixed on was Newport, situated on Rhode Island, fully twenty miles distant from Fall River. Rhode Island is the smallest of the American States. The trip was most enjoyable, as it was through a well-cultivated district, the farms being much like the better class of farms we had been accustomed to in Renfrewshire; but in almost every instance there were attached to each farm an old orchard, with a young one coming on to take the place of the old one.

The windmill seemed to have been of late an indispensable part of the machinery of an American farmer, many of them being prominent objects in the district—some of them in ruinous condition. We halted several times by the way and spent a little time in gathering bramble-berries and huckle-berries, which were very plentiful, and growing to great perfection. The bramble-

berry is just the same as our bramble-berry or "black-bye," growing along dyke-sides and hedge-rows, but is not so prominent as ours, as the bushes are not so high, but spread more like runners along the ground, and are pretty much concealed among the long grass, but easily detected by the berries when fully ripe. The huckle-berry is in every respect the same as our blae-berry, with the exception that the shrub on which it grows is much stronger than with us, it being from twelve to eighteen inches high. In several districts, these berries are a very important item in the revenue of the farmer, who gathers them and sends large quantities into the market in boxes or baskets. In all hotels and restaurants they are usually set down to meals.

We stopped at a potato field to examine the ravages of the Colorado beetle. Here we saw them in great force. They were to be seen crawling along the road and on to the dykes enclosing the field. The beetle is in form and size very much like a common coffee bean, and is covered with a hard brown and yellow striped crust, like our black beetle. Under this crust there are a pair of slender wings, by which it can fly from one place to another. The beetle at first sight reminded us very much of a fancy shirt stud. The farmers were doing everything in their power to destroy the pest, by going over the field with dusters full of flour and Paris green, and wherever the eggs were visible a little of the dust was applied to the leaves, and it seemed to have the desired effect.

Arriving at Newport, and getting clear of our horse, we walked a short distance to the shore, which looks right out into the Atlantic. Here our attention was arrested by a scene that was entirely new to us. Within a bay on a sandy beach, surf bathing was going on in grand style. Stretching along the bay is a village of small bathing-houses, constructed of wood like sentry-boxes, and set closely together, with several streets running back, lined on both sides with these houses. Between the sea and the bathing-houses, there was a long line of carriages belonging to the gentry who had come, some of them with their families, to bathe, others to enjoy the sport in looking on at those who were bathing. Here were hundreds, composed of both sexes, all classes, and various ages, from the child of four years old to the gray-headed sire of four-score, all seemingly much pleased with the amusement. On resolving to have a bath, you go to one of the offices, where you pay your money and get the key of one of the bathing-houses, where you get your bathing-dress. Having donned it, you are ready to take your place amongst the crowd and share in the excitement, which is very invigorating and amusing.

Looking out on the Atlantic, the water is apparently quite smooth, except near to the shore, where there were always three waves following each other, with a considerable distance between each, one making its appearance in the distance as the nearest spends its force on the

beach. At a considerable distance from the shore, the bathers could be seen standing in the space between the waves, little more than knee-deep. When the wave approaches them, if they did not leap up on the crest of it, it would wash clean over them. They could be seen, after the wave had passed, "sprachling" and trying to regain their feet. Surf bathing is not swimming, but tumbling and dancing amongst the waves. When you return to your house, there is a tub of clean water standing opposite your door, into which you step to clean the sand from your feet, and from this tub you go into your house, where you have towels and all toilet requisites for dressing. When bathing operations begin, a flag is hoisted, and as long as the flag is up, all bathers must be dressed. When bathing is to cease, the flag is taken down, and, half-an-hour after, bathers may go in undress if they choose.

During bathing hours there is a line of omnibuses plying between the city and the bay. There are also refreshment rooms and stands fitted up, covered with awnings to protect visitors from either sun or rain, the advantage of which we experienced in one of those sudden changes of weather, a thunder-storm and very heavy rain unexpectedly breaking out all at once, turning the roads into a sea of mud, whereby we were very much crestfallen, thinking our day's pleasure was at an end, while we had before us a twenty miles' drive through mud and rain.

Our friends had more hope of the day, and proposed we should take the 'bus to a hotel and have dinner. By the time we had this done, we were surprised to find the storm over, and the roads almost as dry and more pleasant than before the storm. We again set out to the shore. This time we walked several miles along the cliffs, with the Atlantic beneath us on our left, while on our right was a succession of palatial residences at a considerable distance back, with a large space of pleasure ground intervening between these mansions and the cliffs. After several miles' travel, we began our return journey, and got to the street on the other side of these mansions, where we found the fronts to the street even superior to those facing the Atlantic. It being now the afternoon, there appeared to be no end to the fine equipages that were rolling along. It seemed to us as if all the citizens were in carriages. Setting out on our return journey, we passed through the city cemeteries, which were of such extent as to impress us with the idea that we had formed but a poor conception of the extent of the city and the number of its inhabitants. We reached home at a late hour, much gratified with our day's excursion.

The following day being a holiday at Taunton, it was very prominently announced by placards that an excursion party from that place would visit Fall River, and hold a Land League meeting in the New Public Park, where a number of influential gentlemen would address the

meeting and give a full exposition of the wrongs of Ireland. Being curious to learn how the Americans viewed this question, we made a point to attend to hear the discussion. The meeting, which was largely attended, was held in a large hall within the park. But the speeches were not up to the mark. We were informed that some of the best speakers did not put in an appearance. However, we much admired the mild way in which all, with one exception, referred to the question. At the same time, all were agreed that Ireland's grievances were the result of the oppression and misrule of the British Government.

We had in the course of our journey endeavoured as much as possible to learn what assistance, if any, the American Government rendered to the Irish Land League. The invariable reply was that neither the people nor the Government took any interest in the question, although it was admitted that considerable sums of money had been collected and sent home to support the League, not from the American people, but from a class who had been starved out of Ireland, and after a short residence in America had entered business on their own account, and carried on successfully, some of them amassing large sums of money.

In visiting some of the larger cities, particularly San Francisco, we were very much surprised when our friend, in passing along, pointed out some of the finest buildings in the city, followed frequently by the remark that they

were the property of some Irishman who had started a few years ago with little or no capital. One very plain-looking gentleman was pointed out as being an Irish millionaire, who had lately retired from a very lucrative business. Our friend remarked that these were the people who sent home the money to keep up the agitation in Ireland—with some of them the feeling being so strong that a hundred or even a thousand pounds would be given with as little hesitation as a shilling would be given to a Presbyterian Church in Scotland. However, the people composing this large meeting did not seem to be of the class who had much money to spare. They were altogether belonging to the working-class, the greater number taking little interest in the question of Ireland and its wrongs—their object simply seeming to be one of enjoyment.

Well satisfied with our visit to Fall River, we now bade adieu to our friends, and left the same evening by steamer for New York, where we arrived next morning. This was the only place where we had been unfortunate in the selection of our hotel, it being one that is much frequented by American merchants, and where the whole establishment is managed in a rough-and-ready manner, with very little ceremony, so that we lacked many of the comforts that we so much enjoyed in other places. However, our stay in the city was but short, so that we felt the inconvenience less. As a result of our short visit, we have but little to notice, but were very much disappointed

with the city in its general appearance. In the neighbourhood of merchants' warehouses, though the streets were wide, the footpaths were continually blocked up with goods, compelling passengers to walk on to the carriage-way. In some parts the traffic on the streets is very much relieved by the elevated railroads, which are constructed of iron columns and beams ; across these are wood sleepers, on the top of which the rails are fixed. A line of rails runs along each side of the street, near to the sidewalk, the height being such that the passengers in the cars look right into the houses of those who inhabit the second and third flats. These lines on each side of the street are joined near to the stations by a platform extending between the two lines, and it is only in the neighbourhood of these stations that the sleepers are covered with flooring. The trains are in general very short, consisting of from three to four well-finished carriages, and a rather light steam-engine, the whole at certain points taking very sudden turns, when requiring to turn from the main line into a street crossing at right angles. There is a uniform fare of ten cents to whatever place or distance you go. These elevated railroads, as observed from the Central Park, run a considerable distance into the country, probably in the expectation that the city will shortly extend in that direction.

The New York wharves are constructed so as to give much accommodation, with a small water frontage ; and

to concentrate the traffic as much as possible to the central district, jetties are run out into the river, alongside of which the vessels lie with their bows towards the mainland. While admiring the great extent of shipping and the excellent accommodation provided for it, there was yet a temporary appearance about the whole system which was almost offensive. This is perhaps owing to the whole being constructed of timber, some of which was showing signs of decay, and in some cases repairs had been done so clumsily as to give a rickety appearance to the whole affair. However, this state of matters will probably disappear by-and-bye, as timber gets scarcer and dearer, and stone comes into more general use.

Between New York and Brooklyn the river is more than half a mile wide. All along the frontage on both sides there are several ferry stations, and large steam ferry-boats, with their hundreds of passengers, plying every few minutes between the two cities. In crossing, it is no unusual thing to have within view at one time from ten to a dozen of the steamers crossing at various angles to either side. These, with the usual traffic up and down the river, present a very animated scene, in which there must be great risk and danger from collision. The platform of the wharves is so formed as to receive the platform on the bow of the boat, which, when run into its position in the dock, is almost as neatly fitted as could be done by the plane of a carpenter.

The boats are constructed so as to carry in the centre all kinds of waggons, carriages and cattle, while cabins are fitted along the sides for the comfort of passengers. They remain only a few minutes at the piers, when they return with their hundreds of passengers. These boats are fitted up with gas, which we were informed was for use in the night traffic, the steamers continuing to ply every half hour during the night.

An attempt is being made to construct a bridge across the river between New York and Brooklyn. It has been in course of construction over ten years, and is now three years past the time in which the work was to have been finished. At the present time there is more than one-third of the work still to do. The towers of the bridge on both sides of the river are finished, and, being about 270 feet high, are objects that attract much attention. The main cables that are attached to the tops of them are stretched across the river, hanging in the air like an inverted arch, about one-third from each side of the river. The cross beams are placed in their position, suspended from the cable. It is when passing under that you can form an idea of the magnitude of the undertaking. The height from the surface of the water to the floor of the bridge is about one hundred and forty feet, so as to be out of the reach of the topmasts of vessels passing under. The incline from the towers on to the New York side is already formed, and comes in at the level of the street at the City Hall Square, near to the new Post Office, which will be

about half a mile distant from the tower. At that point it will be about eighty feet wide, and ascends by a very easy incline. It is said that besides a promenade for foot passengers, there will be four or five lines of carriage ways, which, from the width of the span, will produce so much vibration that it may have the effect of deterring many from using the bridge.

Having made the best of the time at our disposal here, it was agreed that I should proceed alone to Rochester, about four hundred miles distant from New York, and situated on the Genesee River, some eight miles up from Lake Ontario. On entering Rochester one would conclude that there were not more than from five to six thousand inhabitants in the city, while there are actually eighty-five thousand, there being only a small portion of it that is closely built, and that in the neighbourhood of the Post Office and other public buildings.

CHAPTER X.

ROCHESTER, CONTINUED—A SPREAD-OUT CITY—ITS IMMENSE WATER POWER—CEMETERIES—RAILWAY ENTERPRISE—HOME JOURNEY—PARTING WORDS TO PLEASURE-SEEKERS AND FARMERS—CONCLUSION.

IT is difficult to form an estimate of the population of Americancities at first sight, owing to the great extent of ground belonging to each house. Rochester, of all the cities I have seen, is in that respect the most deceptive. The whole district has the appearance of an immense forest, where the trees have been cut down to form streets and sites for the houses and gardens. Any one desirous of obtaining ground on which to erect either a public work or a dwelling-house has only to apply to the Government land-agent, from whom he can get an out-and-out purchase of, say, twenty acres of land, the whole cost of which, including the expense of the title, will be less than the that of the mere title alone to twenty poles of ground in Scotland, which would be afterwards burdened with an annual feu-duty of from £10 to £12.

On the Genesee River, which passes through the city, there are three waterfalls, giving an immense power. The upper one in the centre of the city is over ninety feet high. There are two of less height a little further down

the river. On each of these falls are situated engineering works and mills of various kinds. The power obtainable is so great and so much taken advantage of that sites cannot be got close to them on which to erect works.

But American ingenuity has devised a method of conveying the power to sites at a distance, whereby it can be fully utilised. I had the good fortune to be shown over a large engineering work to which the power has been conveyed. It is situated nearly a hundred yards distant from the fall, another large work and an open court occupying a site between it and the fall. The power is transmitted over the top of this latter work and court by means of a half-inch wire cable, worked over a pulley at the fall and another on top of the building, at a height of fifty feet above the ground. The same half-inch cable was said to have been over seven years in use, and had not required any repair during that time.

It having fallen to my lot to spend a Sabbath here, and not having specially visited any of the American burying-grounds, I resolved to spend a few hours amongst the tombs, and with that view took the car to Mount Hope Cemetery, which is very extensive and well-chosen for such a purpose. It consists of hills, valleys and lakes, the great objection to it being rather much natural wooding intercepting the view of the city. On the highest mount there had been a high wooden erection, which had become dangerous and was removed, and a stone one is in course of being built, from which an extensive

view will be had all round. The monuments here appeared somewhat strange—the stag, dog and lamb, in bronze, being much in use. The ground was very artistically laid out with footpaths and avenues, all of which had name-boards put up at the corners of the avenues. As a specimen, there was Prospect Avenue, Highland Avenue, Lake View Avenue, &c. There were several funerals taking place during our visit, thus giving an opportunity of contrasting the American mode of burial with ours at home. One was that of an old lady, widow of an English barrister. The inside of the grave and the ground, nearly seven feet all round, with the earth dug out of it, were tastefully covered with twigs of green cedar and spruce, giving the grave and ground much the appearance of being lined with a carpet. There was a great concourse of mourners of both sexes. It is the custom there for the carriages containing the chief mourners to precede the hearse, and the acquaintances to follow it.

After the coffin had been lowered into a pine safe in the bottom of the grave, the relatives placed their immortelles over it. Then the funeral service was read, and the mourners retired, leaving the grave uncovered. In the case of another funeral the coffin was placed in a mausoleum, where it would be allowed to remain from four to eight weeks, when the relatives would again meet and have it removed and interred in the ground. The mausoleum, which is fire and burglar proof, is octagon in form, with a dome roof. One of the sides

forms the entrance. Each of the other seven sides has three stone shelves in the height, fitted up for the reception of coffins. This mode of sepulture did not appear to be approved of by the inhabitants generally.

Tramway cars ply along every second street from the centre of the city for a long distance into what we would call the suburbs, but what to the American is really part of the city. The horse-paths in the suburbs were in a most objectionable state of repair. Otherwise the car service seemed very efficient and economically conducted. In this city no guards are employed, the driver discharging the duty by keeping a sharp look-out for customers. There is a uniform fare of five cents, irrespective of distance. A passenger, on entering the car, walks forward towards the driver and drops his fare into a little receiver, like a letter-box, with glass sides. The driver casts a glance into the box, and, if the correct fare has been deposited, he touches a spring which cants the bottom, and the fare drops into a little chamber beneath, and the bottom adjusts itself to receive the next fare. The cash chamber is accessible only to the manager and cashier, who may take out the cash either at every course or in the evening, when they get the whole day's earnings all at once. In no case is the driver allowed to handle any of the fares, but he is allowed to give change to accommodate the passengers. For this purpose he is furnished at the office with a number of small envelopes, on each of which there are printed, in large figures, 10, 20,

25, or 50 cents, according to the value of the money in the envelope. In every case the change is so arranged that there is a five cent piece in the envelope. If the passenger has not got a five cent coin, but supposing he has a twenty five cent piece, he hands it to the driver, who gives him in return a twenty-five cent envelope, on which are printed these words, "Open this and put the fare in the box." This done, the passenger takes his seat in the car. Any passenger desirous to leave, gives notice to the driver by pulling the bell, and the car is stopped. Much pleased with the visit, we left by rail in the evening, and joined our friend in New York next morning.

The day of departure for the Clyde having arrived, we went on board the steamer and started on our home journey, having been much gratified with our excursion. The next day we began to recount some of the incidents of our experience of the past two months, and of many things that cropped up in our mind's eye. The most prominent of these were the kindly feeling and hospitality that were extended to us wherever we went, leaving an impression that is certain to be of life-long duration.

On many occasions we observed what appeared to us to be a very peculiar domestic habit with some of the inhabitants. In several instances, we met with well-to-do people, amongst whom were retired merchants, who, instead of enjoying their quiet family residence, were living in boarding-houses, somewhat after the fashion of

hydropathic life in Scotland. These houses, in external appearance, could not be detected from a private family residence, and generally contained from ten to twenty boarders. Our first impression regarding the boarders was that they were either transient visitors or people in reduced circumstances. We soon learned that such was not the case, but this mode of living was resorted to as a matter of economy.

Some of the wealthiest inhabitants, who turn out the finest equipages, will not take the trouble and annoyance of having horses of their own, but they have their own carriages and servants, all with the exception of the driver. There are parties who make a trade of hiring out first-class horses. With one of these an arrangement is made to take charge of the carriages, and supply horse and driver on the shortest notice ; and by the aid of the telephone, they are as speedily called forth when required as though they were kept on the premises.

We had long been under the impression that Americans were much given to boast of the great things they possessed and of the great works they performed, and put themselves forward as being the greatest in everything ; but such was not our experience when we came in close contact with them. However, it must be admitted that we heard a deal of boasting, but it was by natives of our country who had been a few years resident there, and were no doubt anxious to entertain us by showing us the land of their adoption to the best advantage. As an

instance, two old acquaintances were showing us over an aristocratic part of a city. They seemed to know all the outs and ins of the occupants of each mansion. As we passed along one was pointed out as the greatest exporter of grain in the world, another as being the most extensive railway shareholder in the world, and another as the richest man in the world. This brought us to a stand, and the question was put to our informant if there was just one such "richest man" in the world in America, as we had on two former occasions had the residence of such a man pointed out to us! This, to our great relief, had the effect of checking the bounce for a time.

The Americans don't need to boast of their works—they speak for themselves. When we look at the great extent of their country, the fine, fertile districts, interspersed with rivers, lakes, and harbours, and natural water-falls giving power to immense numbers of factories, with coal and iron to an unlimited extent—in addition to which, there is the fostering care taken of inventive minds, assisting men of indefatigable energy and perseverance, who overcome almost insurmountable obstacles, and who are already making themselves felt in our own country, it requires no great foresight to predict that, in a few years hence, several of the industries of this country will be very seriously affected, and some may have to succumb altogether. As for agriculture, it is already a doomed industry in our country.

Many must have felt sorry that the Right Hon. W. E.

Gladstone, at the dinner given to his tenant-farmers on the Hawarden estate, on the 12th December last, had not been more accurate in pointing out to them what was the real cause of the severe trial through which he said they were passing. The following are the Prime Minister's own words:—

“It is now about forty years since I first began to attend these dinners, and certainly I have seen many changes in that time. The first of these years were years of very considerable trial and pressure, and they followed or accompanied the introduction of the legislation known as Free Trade. But those years, which were marked by some scarcity in the season, and by some other trying circumstances, were followed by a quarter of a century which, as far as I know, was a period of great and more general prosperity to agriculture than had been known in this country for a long time before; and the test of this prosperity was to be found in this, that almost every article of agricultural produce went up greatly in price. Of that there is no doubt whatever. Wheat, of course, being of great importance here, constitutes an exception, but still there has been no very great fall in the price of wheat. Other products—barley, oats, meat, wool, butter, cheese, almost everything else that the farmer is interested in—went up in price, and went up in a manner which showed it would not go down again to its former level. And even in this period of distress, if we take, for example, the article of meat, in which a great deal of pressure has

been felt, you know perfectly well that, at the worst, the price at which the stock has been sold, or the price which the butcher has obtained for meat, has been very much higher than it used to be fifty or sixty years ago."

From this point he led his tenants on with a semi-political harangue, cautioning them to beware of his political opponents, against whom he said he did not wish to use hard words, but termed them political quacks. After getting the farmers to the point of applauding and hear, hearing, he ventured to set before them the serious evils from which he said they were suffering. "The special evils from which you suffer are due to bad seasons and bad trade. (Hear, hear.) The bad seasons which it has pleased God to give us have given you much less in quantity and quality, much less of agricultural produce to dispose of; and while you have had less to dispose of, the bad trade of the country has taken away to some considerable extent the means of those who ought to have purchased your produce. Therefore you have at once had a diminished supply to send to market, and you have had to look for a diminished price. That is a fact which we have one and all before us, and which we so much lament." In the whole speech foreign competition and high rents, the chief causes of farmers' grievances, are kept in the background, the only reference being that he "was not aware that there had been any considerable increase in rents in this part of the country,"

and as to foreign competition, it was not even referred to.

Now, just contrast the speech of the Premier with that of Mr Campbell, M.P., delivered on the 18th December last. (Mr Campbell is member for the Ayr Burghs, and is of the same shade of politics as Mr Gladstone). In his address to the farmers, he pointed out to them the real cause of their grievances so plainly as to put the question beyond all doubt. "Our farmers have had hard times the past few years, and I wish I could say I saw signs of improvement. The most important factors in bringing about their difficulties have undoubtedly been the bad seasons and the American competition, but it is difficult to say which of these has been the more powerful. Mr Gladstone calculated that the loss to agriculture through bad seasons has been about £120,000,000, and Mr Caird, putting it another way, says that the loss of tenants' capital has been in some districts one-third and in others a half. Looking at the question in this light, you see that it becomes not merely a class question, but one affecting the interests of the whole community. And even supposing that we are to be favoured with a series of good seasons, it is to be doubted whether they would counteract the effects of the foreign competition. For my part, I do not think they would. So far as we can see, this competition is likely to increase, for as the railway system is extended in America, fresh fields will be opened and larger fleets of steamers be made available for transport. Russia, Australia, and New Zealand are

all coming into play, and are certain still further to add to our imports."

With regard to the extension of railways in America, the following cutting from the *Deseret News*, of the 14th December, shows that railway making is being proceeded with at a truly railway pace:—"The past year, notwithstanding its many calamities, has been in many respects one of unexampled enterprise and prosperity. In nothing is this more apparent than the rapid and extensive construction of competing Trans-Continental and other railways. It is estimated from reliable data predicated upon official returns that more railway iron has been laid in the United States within the past year than during any similar period in the history of the country; the various new roads and extensions footing up the grand aggregate of over six thousand miles. Some years ago we thought the construction of the Union and Central Pacifics' a great undertaking, but now there are not less than four similar main lines reaching out for the waters of the Pacific, besides one running down into Mexico, with auxiliary and competing lines all over the country, and the almost daily announcement is, still they come."

It will thus be seen that the entire continent of North America will at no distant date be covered with a network of railways, and the food supplies from an enormous and almost unlimited extent of country will be poured into Britain in ever increasing quantities, rendering it

more and more difficult for our farmers to compete against it, handicapped as they are at present with high rents and manifestly unjust land laws.

To those who have some time and money at their disposal, a few months' travel through the States and Canada will be found at once enjoyable and profitable. Such has been our pleasurable experience; indeed, so much so, that we have a strong desire to see more of that great country.

The voyage across the Atlantic is re-invigorating to the human constitution, physically and mentally. The transit from one place to another in America is performed in comfort and safety. Everywhere our common language is spoken (a great convenience in travelling); everywhere is the intercourse civil and courteous, and everywhere we found ourselves among a God-fearing and law-abiding people. To the farmers of this country we emphatically say—Your hope of a brighter future, your redemption from a life of profitless toil, lies in the fair and fertile fields of the West, in the vast tracts of virgin soil in Canada and the States, as yet untouched by the industry of man!

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